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ABSTRACT

This study investigated the effects of advance organizers on the English reading comprehension of six bilingual fifth and sixth grade learning disabled students whose primary language was Spanish. An alternating treatment design was implemented. Following each treatment, the students read an expository text written in English and answered eight comprehension questions based on five levels of a reading taxonomy. Analyses of the data suggest that advance organizers were effective particularly when presented in the dominant language of the student. The five students who demonstrated equal or greater language proficiency in English scored higher when the English advance organizer was compared to the Spanish advance organizer. The student who demonstrated greater language proficiency in Spanish scored higher on the Spanish advance organizer. All students scored higher when the English advance organizer was used in comparison to no advance organizer. Students performed highest on questions at the appreciation and evaluation levels of the reading taxonomy. The study supports the use of advance organizers as an effective instructional strategy and further highlights the importance of considering the student's dominant language in selecting the language for presentation of the advance organizer. (Author/DB)

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ADVANCE ORGANIZERS AS AN INSTRUCTIONAL STRATEGY FOR BILINGUAL LEARNING DISABLED STUDENTS

by

Beth Anne Lasky

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A Dissertation Submitted to the Faculty of the

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and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

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Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copy of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

Candace L. Bos
Dissertation Director

11/25/86
Date

DEDICATION

This dissertation is dedicated

to the memory of my aunt,

Selma Immerman

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ABSTRACT

This study investigated the effects of advance organizers on the English reading comprehension of six bilingual learning disabled students. Little research has examined instructional strategies for teaching bilingual learning disabled students, a growing population in our schools. Based on research dealing with the use of advance organizers as an instructional strategy and on research in bilingual education, this study compared the effectiveness of using advance organizers on the English reading comprehension of six learning disabled students whose primary language was Spanish.

An alternating treatment design was maintained. Following each treatment, the students read an expository text written in English and answered eight comprehension questions based on five levels of a reading taxonomy. The number of correctly answered comprehension questions was recorded on graphs and statistically analyzed to compare the treatment conditions. In addition, the average proportion of correct responses for different levels of questions was computed and analyzed.

Analyses of the data suggest that advance organizers were effective particularly when presented in the dominant language of the student. The five students who demonstrated equal or greater language proficiency in English scored higher when the English advance organizer was compared to the Spanish advance organizer. The student who

demonstrated greater language proficiency in Spanish scored higher on the Spanish advance organizer. All students scored higher when the English advance organizer was used in comparison to no advance organizer. Three of the students scored higher on reading comprehension when the advance organizer was presented in Spanish as compared to no advance organizer. Students performed highest on questions at the appreciation and evaluation levels of the reading taxonomy.

This study supports the body of research which suggests advance organizers are an effective instructional strategy and suggests their effectiveness with bilingual learning disabled students. This study also highlights the importance of considering students' dominant language, particularly their cognitive/academic/language proficiency, when determining the language for presentation of the advance organizer. Further research needs to systematically investigate the interrelationship between advance organizers and students' dominant language when attempting to facilitate English reading comprehension.

CHAPTER 1

INTRODUCTION

Bilingual education and special education have become areas of controversy (Beveridge, 1982; Cordasco, 1981; Dunn, 1968; Mercer, 1974). When the two disciplines are combined, as in the planning of an educational program for the exceptional child who is predominantly non-English speaking, there is a multitude of theoretical and practical problems.

A paucity of literature exists which deals specifically with the bilingual exceptional student (Ayala-Vasquez, 1978; Gallegos, Garner, and Rodriquez, 1980; Plata, 1979; Plata and Santos, 1981). Plata and Santos (1981, p. 98) suggest that, "The goal of the bilingual special education strategy should be to meet the academic, sociocultural, and psychological needs of non-English speaking handicapped pupils who cannot meet performance standards normally expected of a comparable group of English-speaking handicapped pupils." They further suggested that the main focus of bilingual special education should be on teaching bilingual exceptional children at their performance level by communicating with them in their first language.

Although there is a plethora of research in learning disabilities, there are few articles dealing specifically with learning disabled bilingual children, a large population of children who exist

in our schools. It seems apparent that learning disabled bilingual students need to be identified and their problems remediated. Educators are at a quandary as to how to educate these students. Should instruction be in the child's native language? Should the child be taught to read in their first or second language? Answers to questions such as these have not been empirically addressed. At this time, no studies have been reported which identify effective instructional methods for use with the bilingual learning disabled student. The purpose of this study was to investigate the efficacy of one such method. The method considered in this study involves advance organizers for use with expository texts. An advance organizer activates prior knowledge and attempts to establish a purpose for reading by relating the major concept presented in the text to general concepts with which the student may already be familiar.

Purpose of the Study

The purpose of this study was to investigate the instructional effects of advance organizers on the reading comprehension of learning disabled students whose primary language was Spanish. The following research questions were addressed:

1. Will the use of an advance organizer in English or Spanish result in differences in the English reading comprehension for bilingual learning disabled students as measured by oral comprehension questions based on a taxonomy of reading comprehension?

a. When comparing the use of an advance organizer in English with no advance organizer, will the use of the advance organizer in English result in greater English reading comprehension for bilingual learning disabled students?

b. When comparing the use of an advance organizer in Spanish with no advance organizer, will the use of the advance organizer in Spanish result in greater English reading comprehension for bilingual learning disabled students?

c. When comparing the use of an advance organizer in Spanish with an advance organizer in English, will the use of the advance organizer in Spanish result in greater English reading comprehension for bilingual learning disabled students?

2. Will the use of an advance organizer in either Spanish or English differentially affect these students' performance on the various levels of comprehension questions asked of them based on a reading comprehension taxonomy?

Significance of the Study

This study will provide information concerning one instructional approach for use with bilingual learning disabled students. It will examine the effectiveness of an advance organizer presented in either the child's first or second language on the student's reading comprehension.

The results of this research study should have impact on the education of bilingual learning disabled students. It is hoped that

this research will shed some light on the issue of how to instruct these students. This research should also provide a basis for further research into the teaching of the bilingual exceptional child.

Definition of Terms

For the purpose of this research, the following terms have been defined:

Learning Disabled--a disorder in one or more of the basic psychological processes involved in understanding or using spoken or written language, which may manifest itself in an imperfect ability to listen, read, write, think, spell, or do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage (U.S. Office of Education, 1975). For the purpose of this study, a learning disabled child met the following criteria: (1) a discrepancy between ability or potential and achievement, (2) exclusion of other primary factors contributing to the learning disability, including mental retardation, hearing or visual impairment, emotional disturbance, or lack of opportunity to learn, and (3) a need for special education demonstrated by difficulty in learning through ordinary methods of instruction (Kirk and Gallagher, 1983).

Bilingual--a general term used to encompass children who are limited or non-English speaking, as well as those children who are

fluent in both their primary language and English (Cervantes and Duran, 1981).

Advance Organizer--information that is presented "in advance of and at a higher level of generality, inclusiveness, and abstraction than the learning task itself" (Ausubel and Robinson, 1969, p. 606). For the purpose of this study, an advance organizer was defined as a paragraph, read to the student by the teacher taking approximately three minutes to read. This paragraph contained information concerning the major topic presented in the passage, and was designed to activate the student's prior knowledge. Additionally, it presented vocabulary and established a purpose for reading. Questions presented in the advance organizer were also used to actively involve the student in this process.

Reading Comprehension--for the purposes of this study, the term reading comprehension referred to the ongoing interactive process between the reader and the text. This occurs when the reader uses his or her background knowledge to gain meaning from the text. Comprehension was measured by eight questions presented orally to the students after they had completed the silent reading of the passage. Comprehension questions focused on the students' ability to recall, reorganize, infer, evaluate and appreciate information.

CHAPTER 2

REVIEW OF THE LITERATURE

This chapter reviews the literature related to this study. The first part is a selected review of the literature in bilingual education. The second part is a selected review of the literature on the activation of schema and prior knowledge for teaching reading comprehension. The third part is a selected review of the literature in the use of advance organizers.

Bilingual Education

There are approximately 16 million Hispanics in the United States (Arciniega, 1981). Some 5,000,000 youngsters in the United States come from homes in which the language spoken is other than English (Cordasco, 1981). An estimated 3,600,000 pupils in this country need bilingual education to enable them to benefit from the regular school curriculum (Cordasco, 1981). Hispanics comprise 30% of the school population in New York, almost 50% in Los Angeles, just under 60% in San Antonio and El Paso, and 32% in Miami (Arciniega, 1981).

To help deal with the needs of language different students in the public schools, the United States Congress enacted the Bilingual Education Act in 1968 as Title VII of the amended Elementary and Secondary Education Act of 1965. As a result, the Department of Health, Education and Welfare issued an Executive Memorandum requiring

federally funded school systems to provide assistance for language minority children (United States Commission on Civil Rights, 1975). State legislatures followed Congress' lead and passed similar legislation providing for bilingual education as part of the regular school program. The Bilingual Education Act was renewed in 1974, 1978, and 1983. In 1974, the United States Supreme Court endorsed the Bilingual Education Act. In a much celebrated case, the Supreme Court unanimously ruled in the Lau vs. Nichols decision that limited-English speaking children were entitled to remedial education (Molina, 1978). Lau vs. Nichols was a class action suit filed on behalf of some 1,800 non-English speaking Chinese students against the San Francisco Unified School District (Molina, 1978). Although entitled to remedial education, the court did not set any prescribed methodologies or curricula. The means of meeting the needs of the limited-English speaking ability children were left to local districts.

Rationale for Bilingual Education

Bilingual education is the use of two languages for the purpose of academic instruction consisting of an organized curriculum which includes first language development, second language acquisition, and subject matter development through the first and second languages (Cervantes and Duran, 1981). Cummins' (1981a) theory of language proficiency contributes to a rationale for bilingual instruction. Adapting the "iceberg" metaphor from Shuy (1978, 1981), he distinguished between the surface or "visible" formal aspects of language (e.g., pronunciation, basic vocabulary, grammar) and the less visible or

deeper aspects of language dealing with semantic and functional meaning. Cummins discussed the notion that children acquire the surface or "basic interpersonal communicative skills (BICS) in the first language (L1), regardless of IQ or academic aptitude; yet there are large individual differences in the extent to which literacy skills are developed" (Cummins, 1981b, p. 21). These literacy skills Cummins 1981b, p. 23) described as the "cognitive/academic/language proficiency (CALP) required to manipulate or reflect upon surface features outside of immediate interpersonal contexts." In the "iceberg" metaphor, these fall below the surface. He continues, "CALP is defined as those dimensions of language proficiency that are strongly related to literacy skills, whereas BICS refers to cognitively undemanding manifestations of language proficiency in interpersonal situations" (Cummins, 1981b, p. 23). The significance of the BICS/CALP distinction is that instruction in the first language in the early grades does not just promote proficiency in interpersonal communicative skills, but also promotes cognitive and academic skills which contribute to development of literacy in both of the child's languages. Cummins firmly believes that educators have failed to appreciate these differences in proficiency when addressing the instruction of second language learners. He contends that many bilingual students are assumed to be proficient in both languages when in fact they are only proficient in terms of their basic interpersonal skills. Cummins suggests that when educators hear students speaking or measure their proficiency on language tests, they are misled into the belief that the student is proficient in the language. He further suggests that one of the reasons bilingual students

are referred for special education is because the student's CALP skills have not been determined, and the student may not be as proficient as one would believe (Cummins, 1984).

Efficacy of Bilingual Education

The issue of bilingualism and school achievement is a topic which has received much attention. Many studies have reported achievement gain following bilingual instruction. The results of prominent studies in this area will be discussed in this section. In one of the most commonly cited studies, Modiano (1968) compared Spanish reading comprehension of Highland Indian students who either attended bilingual institute schools or all-Spanish sponsored schools in Chiapas, Mexico. The measures used were teacher identification of students who understood what they read in Spanish and a Spanish test of reading comprehension developed for this study. The study found that a "significantly greater proportion of students in the bilingual institute schools read with significantly greater comprehension in the national language" (Modiano, 1968, p. 407). The author stated that "youngsters who first learn to read in their mother tongue approach reading in a second [language] strengthened by their existing skills" (Modiano, 1968, p. 411).

Another often cited research study was conducted at the Rock Point Boarding School for Navahos (Rosier and Farella, 1976). This study compared fourth and fifth grade students who attended Rock Point in 1972 and who received no bilingual instruction with students who attended in 1975 and who received bilingual instruction. Students who

received bilingual instruction continually or who received only initial reading readiness instruction in Navaho became competent readers in Navaho before reading in English was introduced. As in the Modiano (1968) study, the premise of the Rock Point program was that,

> A child learns to read only once, in whatever language he is taught, but probably most easily in the language he speaks. He can then transfer most of the skills thus acquired to another language. Learning to read in a second language may require learning new sound-symbol associations and some new rules, but the essential concepts of reading can be transferred (Rosier and Farella, 1976, p. 380).

The bilingual instruction group demonstrated better academic achievement in English than the earlier non-bilingual group. The researchers suggested that bilingual instruction was the major contributing factor.

Academic achievement in the Milingimbi Education Program in Australia was reported by Gale et al. (1981). The study compared achievement of aboriginal children in bilingual classes to those in English only classes. Tests measured achievement in oral English, English reading, English creative writing and math. Overall, the children in the bilingual education program achieved significantly better academic results than those in English only programs. The results supported the premise that "a sound language grounding in the mother tongue before the second language is taught will provide a strong cognitive basis for learning the second language at a later date" (Gale et al., 1981, p. 304).

Bacon, Kidd, and Seaberg (1982) further demonstrated effectiveness of bilingual instruction. In their study, the purpose was to determine if reading and math achievement scores of eighth grade Cherokee Indian students who received bilingual instruction in grades

one through five were significantly different from scores of eighth grade Cherokee Indian students who did not receive bilingual instruction. Results indicated that children who received bilingual instruction scored significantly higher on reading and math achievement than those who did not receive bilingual instruction. The authors concluded that when considering reading and math achievement, bilingual instruction when offered for either four or five consecutive years is effective with linguistically deprived Cherokee Indian children.

Although some studies have not demonstrated the superiority of bilingual instruction in comparison to instruction in the second language, they have shown bilingual instruction not to be detrimental to academic achievement. Two groups of Mexican-American seventh grade students enrolled in a traditional junior high school were compared on academic achievement by Curiel, Stenning, and Cooper-Stenning (1980). The experimental group had been taught for one or more years in an elementary bilingual program. The control group had attended English-only elementary classrooms. Reading levels in English at sixth and seventh grades and grade point average during grades one through six were compared. The results indicated that the experimental bilingual group had made significantly higher gains on language skills and vocabulary than the control group. Although not at significant levels, the experimental group also demonstrated higher gains in reading comprehension and consistently higher grade point averages.

Doebler and Mardis (1980-1981) reported similar results to Curiel et al. (1980). This study examined the effects of bilingual instruction on second grade Native American children. The control

group was taught in English while the experimental group was taught in their native Choctaw with supplemental English as a Second Language (ESL) instruction. The results indicated equal or superior performance by the groups who received bilingual instruction, although the differences were not significant in all the areas mentioned. Zappert and Cruz (1977, p. 39) have suggested that "a non-significant effect is not a negative finding with respect to bilingual education." This indicated students in bilingual education classes were learning at the same rate as students in monolingual classes. They concluded that this demonstrated that learning in two languages simultaneously is not detrimental to students' academic performance (Doebler and Mardis, 1980-1981).

The research presented above demonstrates that bilingual instruction has positive effects on the development of academic skills. Students in bilingual classrooms exhibit greater academic gains when compared to students in monolingual classrooms (i.e., Modiano, 1968; Rosier and Farella, 1976) or exhibit academic gains which are no lower than that of monolingual students (i.e., Curiel et al., 1980; Doebler and Mardis, 1980-1981). As Cummins (1981b, p. 21) so aptly stated, "Results of research in bilingual education programs show that minority children's first language (L1) proficiency can be promoted in school at no cost to the development of proficiency in the majority language."

Instructional Approaches in Bilingual Education

Based on Cummins' and others' work in first (L1) and second (L2) language development, several instructional approaches have been developed to address the issues of language use during the presentation

of subject matter in bilingual classrooms. These include: (1) the preview approach, which introduces the lesson in one language and presents the body of the lesson in the other language; (2) the concurrent or translation approach, where the two languages are used interchangeably with an attempt to directly translate concepts and materials; and (3) the alternate or dual language approach, where the language of instruction alternates and instruction is given in English one day (or half a day) and in the primary language the next day (Cervantes and Duran, 1981; Ramirez, 1980). Although there has been no research which compares these instructional approaches, the preview approach has been selected for this study because of its applicability for use in classrooms with learning disabled (LD) students. First, it is an approach which is easy to instruct to teachers who have never used it before. Second, it does not take much time to use in the classroom. Third, the preview method involves introducing, teaching and reteaching concepts of the same lesson. This repetition may be helpful to LD students who may need repetitive learning activities. Fourth, it encompasses some of the same concepts in theories of schema theory and advance organizers.

Reading Schema Theory and Prior Knowledge in Reading Comprehension

Research on reading comprehension has shown that the ability to understand texts is based not only on the reader's ability to interpret the text, but also on his or her background knowledge of the world and the extent to which that knowledge is activated during the process of reading. Instructional strategies which relate the learner's existing

knowledge to new information reflect Ausubel's (1959) developmental definition of the concept of readiness. This concept of readiness simply refers to the adequacy of existing cognitive capacity or level of cognitive functioning (not knowledge) in relation to the demands of a given learning task. Written overviews, outlines, and/or summaries are methods commonly used within textbooks to activate and review prior knowledge. Teacher imposed strategies designed to formulate conceptual awareness prior to reading include advance organizers (Ausubel, 1960, 1968), structured overviews and semantic maps (Barron, 1969; Earle, 1969; Pearson and Johnson, 1978), structured outlines (Glynn and DiVesta, 1977), semantic features analysis (Anders and Bos, 1983; Johnson and Pearson, 1984) and the prereading plan (Langer, 1981).

Research on adult readers has shown that the better the reader is able to access background knowledge about the content area of the text, the better he or she will be able to comprehend and recall the text (Bransford and Johnson, 1972, 1973). In addition, research has shown that the prior experience of the reader influences which background knowledge structures, or schemata, he or she will activate when interpreting a text that is vague or ambiguous in its content area (Anderson et al., 1977; Bartlett, 1932; Rumelhart, 1980).

Both theory and research support the idea that background knowledge affects how much information is recalled and what information is recalled from reading. Recent theorists such as Ausubel (1963, 1968, and 1978), and the schema theorists (Anderson, Spiro, and Anderson, 1978; Rumelhart and Ortony, 1977; Spiro, 1977) have addressed

the role of background knowledge and its relationship to reading comprehension.

Schema theory is derived from Bartlett's (1932) use of the term "schemata." Bartlett felt that readers used their prior knowledge or experience to influence how a text was remembered. According to Bartlett the reader continually interprets incoming information using what he or she already knows to help remember what is read. Bartlett referred to these prior experiences as "schemata" because he felt this concept captured the assumption that one's prior experience was highly organized in structure and operation. He described the role of schemata in comprehension as the interaction of schema with the input, focusing on the integration of new information with already existing knowledge.

Bartlett's theory has influenced current work. Among school age children, background knowledge has been shown to play a significant role in reading comprehension (Adams and Collins, 1979; Mandler, 1978; Stein and Glenn, 1979). Pearson, Hansen, and Gordon (1979) found that second grade students with a well developed schemata on spiders were able to answer more questions, particularly inferential questions, about a passage than those with a weakly developed schemata. Taylor (1979) investigated poor readers' use of prior knowledge in reading by comparing good and poor readers' recall of familiar and unfamiliar text. Her findings suggested that third and fifth grade poor readers' comprehension suffers when their use of prior knowledge is restricted, as when reading unfamiliar material. Holmes (1983) investigated the question answering ability of good and poor fifth grade readers. She found that the poor readers did not use prior knowledge to the same extent as good

readers. She suggested that "activating the background knowledge of poor readers may be particularly beneficial in that it may help them become more aware of what they know and don't know so that they are attentive to contradictory and new information in expository material they read" (Holmes, 1983, p. 17).

The previous studies investigated the students' use of existing prior knowledge. Other studies have examined the efficacy of pre-reading activities designed to provide and/or activate prior knowledge. Gagne and Memory (1978) found that general comprehension, as measured by the quantity and quality of free recall, was better for sixth grade students given a familiar example, or given background information, than for students reading the same passage and simply told to read carefully. They concluded that instructions that encourage the reader to relate old and new information are effective in improving reading comprehension. Alvarez (1983) reported that clarifying and providing ninth grade readers with a prior structure on which to map incoming material led to increased comprehension of related passages. She found that comprehension of the passage was dependent on a schema or thematic framework to make the referents of the passage clear. Stevens (1982) sought to discover whether direct teaching of background knowledge concerning a topic would have positive results in reading a passage concerning that topic. She discovered that teaching background knowledge of a topic to high school readers can improve their reading comprehension on material concerning that topic. Sachs (1984) designed a study to improve oral reading fluency of LD elementary readers using a prereading activity which accessed the student's prior knowledge. The

previewing activities which gave readers the opportunity to relate to the material using their prior knowledge decreased the number of miscues during oral reading.

Although much less research has been done investigating the role of schemata or background knowledge in second language reading comprehension, there is strong indication that reading material which is familiar to the culture of the student improves reading comprehension. Coady (1979) observed that background knowledge becomes an important variable in learning a second language in that students with some kind of Western background learn English faster, on the average, than those without such a background. Johnson (1982) when investigating prior cultural experience and its effect on second language students' reading comprehension, has shown that a passage on a familiar topic is better recalled by second language readers than a similar passage on an unfamiliar topic. Steffensen, Joag-Dev, and Anderson (1979) involved adults from the United States and India in a study which demonstrated the pervasive influence of cultural schema on comprehension and memory. They had individuals read letters about an Indian wedding and an American wedding. Individuals read the passage from their own culture more rapidly and recalled a larger amount of information than when reading passages from the other unfamiliar culture.

Carrell (1983) not only investigated the familiarity aspect of background knowledge but also studied two other components of background knowledge--context and transparency--on reading comprehension of native and non-native readers at the college level. Presence or absence of context consisted of a title and picture page preceding the text

passage, which informed the reader in advance of reading the text of the content area of the text. Transparency consisted of specific concrete lexical items within the text which provided textual clues to the content area of the text. Familiarity was considered to be present if the reader had prior knowledge or experience with the content of the text. Her results indicated that all three components of background knowledge played a role in the way the native speakers read, understood, and remembered the reading passages. However, the three components did not affect the non-native readers' comprehension. Carrell emphasized the role of content schemata in reading comprehension and the implications for the second language reader. She noted that the background knowledge that second language readers bring to the text is often culture specific and therefore may not facilitate reading comprehension in culturally different text.

Of particular relevance to second language readers with limited English vocabularies are prereading activities involving key words or key concept association tasks (Carrell, 1984). She emphasized the necessity of prereading activities for second language readers which build new background knowledge and activate existing background knowledge. Hudson (1982) reported that providing background information and previewing are particularly important for the less proficient language student. Pearson and Johnson (1978) suggested the use of word association tasks in instructional settings to determine what a student knows and what he or she still needs to know about a key concept. Anders and Bos (1983) discuss a number of prereading activities which provide

support for teaching concepts and vocabulary to enhance reading comprehension.

Advance Organizers

A widely researched and controversial strategy designed to activate background knowledge is the advance organizer. Proposed by Ausubel (1963, 1968) the intent of the advance organizer is "to bridge the gap between what the reader already knows and what the reader needs to know before he/she can meaningfully learn the task at hand" (Ausubel, 1968, p. 148). He defined an advance organizer as material that is presented "in advance of and at a higher level of generality, inclusiveness, and abstraction than the learning task itself" (Ausubel and Robinson, 1969, p. 606). Based upon Ausubel's theory of verbal learning, which states that there exists a hierarchically organized cognitive structure, the function of the advance organizer is to provide scaffolding for understanding and retention of unfamiliar material in a passage. The basic principle underlying advance organizers is that the new material will be incorporated into existing cognitive structures.

Ausubel's (1960) original study involved 128 college students who read a 2,500 word passage on the properties of steel. The experimental group read an introduction which served as an advance organizer and was in the form of guide material. This 500 word introduction presented principles referred to in the passage on steel. The control group read an introduction on historically relevant material. Each group read their introduction, then read the passage on the properties of steel, and then took a multiple choice test based on the steel

passage. The difference between the mean score of the groups was significant: the experimental group retained the information contained in the passage more successfully than the control group. It was obvious to Ausubel that the organizer facilitated comprehension.

Reviews of Advance Organizer Research

Since Ausubel's original work, several hundred research studies have explored the effectiveness of the advance organizer. Reviews of these studies indicate a lack of agreement regarding its instructional value. Sledge (1978) reviewed the use of advance organizers at the secondary level and reported that the majority of studies did not favor advance organizers, and in studies which did favor advance organizers, less capable students benefited the most. In a meta-analysis which examined 135 advance organizer studies, Luiten, Ames, and Ackerson (1980) suggested the following: most advance organizer treatment groups performed better than control groups; advance organizers had a variable effect for special education, elementary, secondary, and college students; the impact of aural and visual organizers varied with the age level of students; and the effect of advance organizers tended to increase over time. The effect for special education was slightly greater than that observed with secondary and elementary students. Aural organizers on the average showed a greater effect size than studies using only a written presentation mode.

Mayer (1979), in a review of advance organizers since 1960, identified 44 published studies that evaluated the effectiveness of advance organizers. From the combined results of these studies, he

concluded that the research tended to support the following conclusions:

1. There was a consistent advantage for the advance organizer groups over the control groups. This advantage diminished when the materials were familiar, when learners had a richer background of knowledge, when learners had high IQs, and when tests failed to measure the breadth of transfer ability.
2. When the advance organizer treatment was compared to a treatment where an organizer was presented after the learning experience, the advance organizer group outperformed the other treatment group.
3. Advance organizers were more effective when the material was poorly organized than when it was well organized.
4. Advance organizers improved the performance of learners with less background knowledge more than learners who had more extensive background knowledge.
5. Advance organizers aided lower ability students more than higher ability students.
6. Advance organizers improved transfer of learning more than specific retention of details (Lenz, 1982).

Advance Organizer Research with Elementary and Secondary Students

The most frequently used subjects for studies with advance organizers have been college students. Since the present study dealt with elementary students, this review has been confined to studies involving elementary and secondary students.

According to Ausubel, one major aspect of an advance organizer is the presentation of the concepts at a higher level in the cognitive structure or a higher level of abstraction. Several researchers working with younger children have incorporated this aspect into their advance organizers. At the elementary level, Lawton (1977) introduced higher-order concepts and rules to accelerate the acquisition of concrete operations. He found that he could facilitate the learning of social studies subject matter concepts and logical operations of six year old children by presenting higher-order concepts and rules in visual advance organizers. The need to incorporate both high-order content and high-order rules into the advance organizer was supported by Lawton and Wanska (1979) with kindergarten, third, and fifth grade students. Similar to higher order concepts, Thompson (1977) obtained positive results when he used an abstract advance organizer with fifth graders studying a social studies passage. He found that an abstract A/O was better than a detailed A/O or control passage when measuring the students' comprehension. Koran and Koran (1973) also varied the abstractness of the advance organizers when they used three different introductory passages with fourth grade science students reading programmed material about insects. The introductory passages contained either higher level generalizations with examples, higher level generalizations without examples, or a control passage. They found no differences among the three passages. One reason for this lack of significant differences may be related to the nature of the materials.

Two studies demonstrated the effectiveness of nonwritten interactive organizers on the learning of social studies. Alexander,

Frankiewicz, and Williams (1979) used oral-interactive and visual organizers with fifth, sixth and seventh graders. They concluded that both the oral-interactive and visual organizers facilitated the learning and retention of oral instructions. Kahle and Rastovac (1976) also used a nonwritten advance organizer. They found that for ninth and tenth grade biology students audiotaped advance organizers were more effective than historical narrative as measured by a summative achievement test.

Advance Organizer Research with LD Students

It should be noted that of the advance organizer studies that have included school-age students, few have included the learning disabled population. Mayer (1979) suggested that advance organizers would be the most beneficial with lower ability students and students who have limited background knowledge in academic areas. Lenz (1982) reported on the use of advance organizers with secondary learning disabled students. The purpose of his study was to determine whether advance organizers would make LD adolescents more efficient at receiving, selecting and processing important versus unimportant information on selected academic tasks. First, a test was developed and validated to measure the quantity and quality of learning that might be affected by advance organizers. Second, a pilot study was conducted to develop and validate criteria for constructing effective advance organizers. Additionally, the pilot study investigated the procedure necessary to train teachers to use the advance organizers and the effects of these organizers on secondary students. Finally, the control-group study

investigated the experimental effects of advance organizers with LD adolescents as compared to normally-achieving adolescents. The students in the treatment condition were oriented to the use of advance organizers as an aid to learning and were given the advance organizer before reading social studies passages and taking tests. The control group simply read the social studies passage and took the tests. Lenz found that the advance organizer treatment significantly increased test scores for the normally-achieving group on both important and unimportant information. A significant interaction was demonstrated for the LD group on the type of information learned. LD students in the treatment group identified more important information than the control group. Students in the control group identified more unimportant information than students in the treatment group. In addition, LD students performed significantly poorer than normally-achieving students on measures of both important and unimportant information. When interviewed, teachers and LD students in the pilot study found that one of the most critical components for success was awareness that advance organizers were being presented.

Holtzman, Allen, and Layne (1982) examined the effectiveness of advance organizers on seventh graders who were reading below grade level. Their study compared the effects of an advance organizer and an introductory passage on recall of a main passage on social studies. They found that the advance organizer resulted in test scores that were approximately 25% higher than those obtained by reading the general interest introduction. The results provided support for the use of the

advance organizer as an instructional tool to promote recall of social studies textbook information.

Summary

This review of the literature has concentrated on areas of research relevant to the instruction of bilingual students and specifically to the instruction of reading comprehension for bilingual learning disabled students. Bilingual instruction was demonstrated to have positive effects on the development of academic skills for non-learning disabled students. Schema theory and the role of background knowledge was shown to have positive effects for increasing the reading comprehension of native and non-native readers. The use of an advance organizer was discussed as an effective strategy to activate background knowledge. Wherever possible, studies which demonstrated the effectiveness of strategies with elementary and secondary learning disabled students were presented. While it has been shown that there is a body of research that supports the use of schema theory and advance organizers, no studies have specifically addressed the use of these strategies with bilingual elementary learning disabled students. It was based on the integration of literature related to bilingual education, schema theory, and advance organizers that the current study was conceptualized. There is a need to study the effectiveness of schema theory and advance organizers with bilingual elementary learning disabled students. This study attempts to address this need.

CHAPTER 3

METHODS

This study utilized an alternating treatment design to examine the effect of Spanish and English advance organizers on the English reading comprehension of six bilingual learning disabled students. This chapter describes the method used in the study in relation to student selection, materials, procedures, design of the study, data scoring, and data analysis.

Selection of Subjects

Fifth and sixth grade bilingual learning disabled students from a large metropolitan school district in the southwest were selected to participate in the study. Children who participated in this study met district guidelines as bilingual learning disabled and were identified using the following process. Bilingual children referred for adaptive education were assessed by the Language Proficiency Measure (LPM), a district developed test to evaluate oral language proficiency in English and Spanish. Students who scored a greater proficiency in Spanish or an equal proficiency in both languages were determined to be bilingual. These bilingual students were referred to the district Bilingual Diagnostic Team. This team used a variety of observational, team developed criterion referenced, and standardized evaluations to

assess students. Bilingual students were identified as learning disabled if they met the following criteria:

1. Discrepancy between intellectual ability and academic achievement (performance),
2. Deficit(s) in information processing abilities,
3. Elimination of exclusionary factors including: mental retardation, auditory or visual impairments, emotional disturbance, or lack of opportunity to learn, and
4. Need for special education services demonstrated by the student's difficulty in learning through ordinary methods of instruction.

Principals of the four schools with intermediate level resource rooms which included bilingual learning disabled students were contacted and asked to participate in the study. Teachers of the learning disability classes were requested to identify students who were reading at the 2.0-3.0 grade level in English. One school was eliminated because the students were not reading at the requested grade level. In the remaining three schools, ten students were identified for inclusion in the present study. Parent permission was obtained to administer further tests. The reading cluster subtests of the Woodcock-Johnson Psycho-Educational Battery (Woodcock and Johnson, 1977) were administered to these ten students. Six fifth and sixth grade students who met the 2.0-3.0 grade level criterion were selected to participate in the study. Parent permission was obtained prior to participation in the study. See Appendix A for a copy of the parent permission form.

The six students were receiving bilingual learning disability resource room assistance on a "pull-out" basis from their regular bilingual classroom. To provide more descriptive information, prior to the study the six students were administered a battery of tests to determine ability levels in: (a) verbal ability, (b) reading comprehension and word identification, and (c) oral language proficiency and grammatical ability. These tests are described below.

To assess oral language and verbal ability and reading achievement, the Woodcock-Johnson Psycho-Educational Battery was administered to each student in both English (Woodcock and Johnson, 1977) and Spanish (Woodcock, 1982). The Woodcock-Johnson Psycho-Educational Battery (WJ) is an individually administered, standardized test measuring cognitive abilities, scholastic aptitudes, and academic achievement. It was normed on individuals from age three through adult who represented a wide distribution of the United States. The sample consisted of males and females who were white, black, Indian, Spanish origin and other races; held various occupations, lived in the northeast, north central, south and west geographic regions; and were from urban and nonurban communities. The original norms reflected the proportional representation of the above groups from the 1970 census and were subsequently adjusted to reflect the 1976 census.

The battery utilizes the cluster concept as the basis for analysis, interpretation, and reporting of a student's performance. In using the cluster concept, the results of two or more subtests are combined as the indication of a student's level of performance in a particular cognitive or achievement area. The Verbal Ability cluster

of the English edition is composed of the Picture Vocabulary, Antonyms-Synonyms, and Analysis-Synthesis subtests and primarily measures vocabulary comprehension and expression with abstract meaning minimized (Hessler, 1982). The Picture Vocabulary and Antonyms-Synonyms subtests primarily measure vocabulary usage. Analysis-Synthesis primarily measures nonverbal abstract reasoning and problem solving and serves as a supressor test thereby minimizing abstract reasoning (Hessler, 1982). The Oral Language cluster of the Spanish edition is composed of the Picture Vocabulary, Antonyms-Synonyms, and Analogies subtests and also measures vocabulary comprehension and expression. Reading achievement is assessed by the Reading Achievement cluster which includes the subtests of Passage Comprehension, Letter-Word Identification and Word Attack. The Reading Achievement cluster measures basic reading skills, sight-word vocabulary, phonic and structural analysis, and literal reading comprehension.

Scores from the Woodcock-Johnson for this study were reported as grade and standard scores. Grade scores are represented in grades and school months so that a grade score of 2.8 is reflective of achievement at the eighth month of the second grade. Standard scores indicate how the student is performing in comparison with students at his/her grade level in the norming sample and provide an indication of the student's status in that group. In reporting the standard scores, the mean is 100 and the standard deviation is 15 (Hessler, 1982).

Oral language proficiency and grammatical ability was measured in English by the Bilingual Syntax Measure II (BSM) (Burt and Dulay, 1978), and in Spanish by the Medida de Sintaxis Bilingue II (MSB)

(Burt, Dulay, and Hernandez Ch., 1978). The Bilingual Syntax Measure II in both English and Spanish was developed to assess relative proficiency with respect to basic syntactic structures and oral grammatical structures in both Spanish and English. This assessment is not affected by the students' pronunciation, vocabulary ability or previous academic experiences. It was normed on students in grades K through 12. When both the Spanish and English editions of the test are administered to the same student, the student's proficiency in English and Spanish can be compared to indicate whether and to what degree the student is structurally superior in English or in Spanish. This comparison would also indicate whether the student has comparable proficiency with respect to the basic syntactic structures of both languages. The Bilingual Syntax Measure II places students at one of six proficiency levels in each language. The six proficiency levels of the Bilingual Syntax Measure II are presented below:

Level 1--No ability in language of test: Except for a word or two, students at this level are unable to understand or speak the language of the test.

Level 2--Receptive language only: Students at this level are able to understand conversational language and produce some common words in the language of the test. They are unable to use the language of the test as a vehicle for significant communication.

Level 3--Survival language: Students can usually make themselves understood by using a combination of simple speech and gestures. They sometimes omit nouns or verbs, replacing them with words from their native language. When speaking in the language of the test, the

students sometimes omit nouns or verbs and make errors in the use of articles, verb endings and pronouns. These students are usually able to communicate ideas and feelings in the language of the test, but with considerable difficulty.

Level 4--Intermediate language: Students at this level have little difficulty communicating their ideas in the language of the test. They usually control syntactic structures that include plural, articles, pronouns, and some verb endings. Errors are often made in the language of the test in the more complex verb forms and in advanced number agreements.

Level 5--Proficient language I: Students demonstrate a fairly high degree of proficiency in the language of the test. They approach native proficiency of young children and control most of the basic grammatical structures of the language tested.

Level 6--Proficient language II: Students have mastered a broad range of the syntactic structures found in the speech of native speakers of the language tested through the high school level.

Table 1 presents descriptive data for each student. These data include gender, age, grade level at time of study, English and Spanish grade and standard scores for reading and verbal ability or oral language on the WJ, and English and Spanish proficiency levels on the BSM.

Materials

Reading Passages

Thirty-six (36) English passages were selected from the Primary Reading Series (1981) published by Bowmar/Noble. These 36 passages were

Table 1. Assessment data for the six bilingual learning disabled students

Student	Gender	Age	Grade	Woodcock-Johnson Reading English Gr.	Reading English S.S.	Reading Spanish Gr.	Reading Spanish S.S.	Verbal Ability English Gr.	Verbal Ability English S.S.	Oral Language Spanish Gr.	Oral Language Spanish S.S.	Bilingual Syntax Measure English Proficiency Level	Bilingual Syntax Measure Spanish Proficiency Level
Alejandro	M	12-5	6.7	2.8	74	1.6	BN*	2.2	65	1.7	56	5	5
Miguel	M	13-9	6.7	2.9	75	1.9	BN*	2.2	65	2.5	66	5	5
Felina	F	10-8	5.7	2.4	73	1.6	BN*	2.7	77	1.0[8]	BN*	5	3
Yvette	F	12-4	6.7	2.2	65	1.8	BN*	1.0/15	36	1.4	53	5	5
Raquel	F	11-6	5.7	2.8	78	1.4	BN*	1.0/44	52	1.0[1]	BN*	5	2
Placido	M	11-0	6-7	2.4	68	1.5	BN*	2.2	66	1.0[1]	BN*	5	2

*Below Norm = standard score below 65

at the 2.0-3.0 reading level as determined by the Fry Readability Formula (Fry, 1977). Each expository passage averaged 275 words and was contained in three (3) pages with colorful pictures on each page. The topics of the passages focused on toys or pets and were presented in a descriptive, comparison-contrast, or self-instructional expository text format. Appendix B presents a sample passage, passage 6.

Advance Organizers

The advance organizers (A/O) were designed by the investigator to activate the students' background knowledge and present the major concept at a more general or abstract level. While activating prior knowledge is consistent with schema theory (Rumelhart and Ortony, 1977), the level of abstractness for the major concept follows Ausubel's conditions for advance organizers. He states that the concepts are "to be at a higher level of generality, inclusiveness, and abstraction than the learning task itself" (Ausubel and Robinson, 1969, p. 606). In writing the advance organizer, the investigator read each passage and determined the main idea. The advance organizer was written to encompass the main idea of the reading passage, but at a broader and more general level. For example, passage 24 was about toys that spin, specifically tops and yo-yos. However, the advance organizer was about the concept of spinning. The advance organizer for this reading passage follows:

> What kind of things spin? [That's right.] Wheels spin, they go round and round. Have you ever seen a car stuck in the mud? The wheels just spin around very fast, but the car doesn't go anywhere. People can spin. Dancers

spin all of the time. In ballet, the dancer turns very fast on one foot. Ice skaters also spin very fast on one skate. They go so fast they become a blur. This story is about a toy that spins. You will find out how to make this toy out of a spool. A spool is what thread comes on.

Based on schema theory which stresses the importance of activating background knowledge, each advance organizer began with either a short statement or question to stimulate the student's interest, provide a link between a familiar topic and the topic of the passage, and encourage the student's active involvement. The bracket around "That's right" told the teacher to wait for the student to answer the question. If the student answered the question correctly she said, "That's right." If the student answered incorrectly, the words in the brackets were ignored and the teacher continued presenting the A/O. Each A/O included at least one question to encourage listening. Words or concepts, which were determined by the investigator as possibly unknown by the students, were defined within the A/O. For example, in the advance organizer presented above, the term spool was explained. Finally, the entire A/O was designed so that the student would be able to use his or her prior experience or knowledge with the topic while reading the passage.

To determine if each advance organizer met the criteria of: (a) presenting the concept at a more inclusive level, and (b) encouraging students to activate prior knowledge, a professional familiar with the research in these areas read each passage and rated the presence or absence of each criterion. Results of the rating for inclusiveness

indicate that 32 of the 36 advance organizers presented the concept at a more abstract or general level. For the three that did not, a related concept was presented. For example, with the passage on guinea pigs as pets entitled "The Unpig," the concept of pigs was discussed. Results from the prior knowledge rating indicated that 33 of the 36 passages met the criterion. Of the three that did not meet criterion, it was judged that either the prior knowledge was not activated for the major concept presented in the passage or that the advance organizer did not sufficiently require the student to think about his or her own experiences related to the target concept.

The advance organizers were approximately 75 to 125 words in length. They were originally written in English by the investigator and translated into Spanish by a native speaking master's level student in special education. The advance organizers were presented orally by the teacher and preceded the silent reading of the passage. Appendix C presents the advance organizer for the passage presented in Appendix B, passage 6.

No A/O Treatment Materials

Dittos of word searches and crossword puzzles were provided for students on the days they did not receive the advance organizer treatments.

Treatment Measures

Following each treatment session, the student's reading comprehension was evaluated. Eight comprehension questions were presented orally. These questions were developed by the investigator and were

written at the five levels of Barrett's (1968) Taxonomy of Reading Comprehension. This taxonomy shows the relationship between reading comprehension and cognitive and affective domains. It was selected because it is the most widely used taxonomy in reading instruction and it takes a broad view of the types of reading questions which can be asked. Whereas some taxonomies only include explicit and implicit questions (Pearson and Johnson, 1978), Barrett's taxonomy includes questions that also draw on the affective domain such as appreciation and evaluation. See Appendix D for a copy of Barrett's taxonomy.

The comprehension questions related to the reading passages. For example, in the passage referred to earlier about toys that spin, the following comprehension questions were written at the stated level on Barrett's taxonomy:

1. What kind of shapes do tops come in? (literal comprehension)
2. Which tops go faster? (literal comprehension)
3. What is one name of a trick someone can do with a yo-yo? (literal comprehension)
4. Explain how to make your own top. (reorganization)
5. Why do you suppose one yo-yo trick is called Walk the Dog? (inferential comprehension)
6. Why do the rope tops spin faster than the hand tops? (inferential comprehension)
7. Why do you suppose tops have been popular for so many years? (evaluation)

8. Have you ever had a top? If yes, what kind? If no, which kind would you like? (appreciation)

Three literal comprehension, one reorganization, two inferential comprehension, one evaluation, and one appreciation questions were asked. No comprehension questions were asked regarding the advance organizers. See Appendix E for the comprehension questions for the passage in Appendix B, passage 6.

To determine how reliably the questions were assigned to taxonomy level, two teachers trained in reading instruction independently rated the comprehension questions as follows: Each teacher selected 18 of the 36 passages. She then read each of the 18 passages she selected and the eight questions for each passage. Next she assigned a level from the taxonomy for each question. The reliability for assigning taxonomy level was .88. If the rater disagreed with the level assigned by the investigator, they discussed the question and a mutual agreement as to the level of the question was determined.

Procedures

This section begins with the procedure used to train the teacher in the study. Next the general guidelines for each session are described, then the specific procedures regarding the treatment conditions, reading of passages and answering of questions are explained in detail.

Training Procedure for Teacher

A bilingual (English and Spanish) master's level student in special education was the teacher for the study. She was trained by

the investigator to administer the Spanish edition of the Woodcock-Johnson Psycho-Educational Battery (Woodcock and Johnson, 1977) and the Medida de Sintaxis Bilinque II (Burt et al., 1978), and the treatment procedures of the study. Training in the administration of the tests consisted of three two-hour training sessions in which the investigator demonstrated the procedures used for both exams. In the first training session, the investigator administered the tests to the teacher. The second and third training sessions involved the investigator administering the tests to two other students not involved in the study while the teacher observed.

These training sessions were followed by practice sessions. In the first practice session, the teacher administered the tests to the investigator. Then each additional practice session consisted of the teacher administering the test to a student not involved in the study as the investigator observed and provided feedback. After the third practice session, the investigator determined the teacher was ready to administer the tests to the students in the study. By this session the teacher followed all administrative procedures without any errors. All scoring was done by the investigator who had been trained in administration and scoring of the tests.

Three training sessions were held to demonstrate the three treatment procedures of the study to the teacher. These training sessions followed the same format used in the training of the administration of the tests. In the first training session, the investigator presented the procedures with the teacher role playing as a student. During the second and third training sessions, the teacher observed as

the investigator presented the treatments to two students not involved in the study. These training sessions were followed by three practice sessions in which the teacher practiced the procedures with three students not involved in the study, while the investigator observed and provided feedback. By the end of these practice sessions, the teacher had demonstrated standard presentation of each treatment condition three times to three students not involved in the study. It was determined that the teacher had mastered the treatment procedures when no errors were made in presentation of the procedures.

During the study the investigator observed the teacher once a week to ensure that the correct procedures were consistently being followed.

General Guidelines for
Treatment Sessions

Each day during the study, the investigator provided the teacher with the name of the student and the treatment condition to be used for that day. Students individually came to a quiet room used for the study. Although they generally came to the session at the same time each day, these times sometimes varied if a special event or end of the year testing occurred. The entire session lasted 12-15 minutes. The teacher greeted the student and presented him/her with one of the treatment conditions. This part of the session lasted approximately 3 minutes. The student was then given a passage and asked to read it to him/herself. The teacher then asked the student the comprehension questions. The student's responses were audiotaped and transcribed later. At the conclusion of the session, the student was given a

sticker for his/her participation and dismissed to return to the classroom. There were 36 sessions for each student. If a student missed a session, double sessions were held the following day, with a break between each of the two sessions.

Treatment Conditions

During the advance organizer (A/O) conditions, the teacher gave the student the following verbal directions:

"Please listen while I read this to you."

The advance organizer was read to the student. The reading of the advance organizer required 1-2 minutes. During the non-advance organizer condition, the teacher gave the following verbal directions:

"Please do these puzzles until I say stop."

The student was given dittos of either word searches or crossword puzzles. The student engaged in this activity for three minutes.

Reading Passage

The student was presented with the passage and told:

"Please read this story to yourself. If you cannot read a word try to figure out what it is from the words around it. Look up when you are finished."

The student was given as much time as he or she needed to read the passage.

Comprehension Questions

After reading the story the teacher said, "Okay, now answer these questions" and read the student the comprehension questions.

After the student replied the teacher asked, "Can you tell me more?" or "Anything else?" These two questions were asked regardless of the student's answer. If the student could not give an answer or said "I don't know," the teacher stated, "Give it a try." The teacher recorded the student's answers in writing as well as recording them on a tape recorder. See Appendix E for an example of the comprehension questions.

Design of the Study

The study used an alternating treatment design in which the baseline was used as one of the alternating treatment conditions (Kazdin, 1982; Tawney and Gast, 1984). The alternating treatment design has several advantages when comparing the effectiveness of two or more treatment conditions. First, it does not require a baseline condition before introducing treatment conditions. Second, the design allows for a rapid comparison of several treatment conditions. Third, the design minimizes sequencing problems associated with other multitreatment designs by rapidly alternating the treatments. And fourth, early termination of a study is less critical with an alternating treatment design because differences in treatment conditions typically are evident early in the investigation (Tawney and Gast, 1984).

The alternating treatment design also has several limitations. First, it requires a high degree of consistency of treatment procedures and presentations. Second, it is somewhat artificial when compared with practical instruction found in the classroom. Third, it may be difficult to counterbalance extra-experimental variables across treatment conditions. Fourth, it may adversely affect the occurrence of behavior

changes if treatment effects are not evidenced early in the study. And finally, it may not be sensitive to effective though weak treatment conditions when applied over a long period of time (Barlow and Hayes, 1979; Herson and Barlow, 1976; Kratochwill, 1978).

This study consisted of three treatment conditions:

Treatment A--the advance organizer (A/O) was presented in Spanish.

Treatment B--the advance organizer (A/O) was presented in English.

Treatment C--no advance organizer (A/O) was presented.

Each subject received one treatment condition during each session of the study. It was anticipated that 36 sessions would be sufficient time to demonstrate the effectiveness of the three treatment conditions. To ensure that the treatment conditions appeared an equal number of times, the 36 sessions were grouped into 12 blocks of three sessions each.

Within each block the sessions were ordered by treatment condition so that the students had one of six possible sequences. As shown in Table 2, sequence #1 consisted of the A/O in Spanish, followed by the A/O in English, followed by no A/O. Each subject in the study received each of the six sequences twice during the study. The order in which the sequences were presented was determined randomly for each student. For example, Alejandro was randomly assigned sequence #6 for the first three sessions of the study. He received treatment A (Spanish A/O) during session 1, treatment B (English A/O during session 2, and treatment C (no A/O) during the third session. The procedural

Table 2. Sequence for presentation of treatments

Sequence of Treatment Conditions	Sequence
A B C	1
B C A	2
C A B	3
C B A	4
B A C	5
A C B	6

plan for the six subjects is presented in Table 3. The possibility existed that additional time would be necessary to acquaint the students with the A/O format and collect sufficient data points to ascertain the results of the study. This would have been evidenced by low initial performance increasing to an asymtote. Had this happened, the number of sessions for the study would have been extended. For any additional sessions the same procedures for assigning treatment conditions would have been used.

To ensure that each passage appeared in each of the treatment conditions an equal number of times across students and that each student read each passage only once, the following procedure was adopted. The set of 36 passages was divided into 12 sets of three, and a set of three passages was randomly assigned to each block of the study. Six ways of allocating the three passages among the three treatment

Table 3. Procedural plan for presentation of treatments

Blocks	1			2			3			4			5			6			7			8			9			10			11			12		
Sessions	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Student																																				
Alejandro																																				
Sequences		6			5			4			4			3			5			3			2			1			2			6			1	
Treatment Conditions	A	C	B	B	A	C	C	B	A	C	B	A	C	A	B	B	A	C	C	A	B	B	C	A	A	B	C	B	C	A	A	C	B	A	B	C
Miguel																																				
Sequences		5			2			2			6			6			3			3			4			1			4			5			1	
Treatment Conditions	B	A	C	B	C	A	B	C	A	A	C	B	A	C	B	C	A	B	C	A	B	C	B	A	A	B	C	C	B	A	B	A	C	A	B	C
Felina																																				
Sequences		3			5			3			4			1			6			6			4			5			1			2			2	
Treatment Conditions	C	A	B	B	A	C	C	A	B	C	B	A	A	B	C	A	C	B	A	C	B	C	B	A	B	A	C	A	B	C	B	C	A	B	C	A
Yvette																																				
Sequences		6			2			4			4			3			6			2			3			5			1			1			5	
Treatment Conditions	A	C	B	B	C	A	C	B	A	C	B	A	C	A	B	A	C	B	B	C	A	C	A	B	B	A	C	A	B	C	A	B	C	B	A	C
Raquel																																				
Sequences		6			1			3			4			2			3			1			2			4			5			5			6	
Treatment Conditions	A	C	B	A	B	C	C	A	B	C	B	A	B	C	A	C	A	B	A	B	C	B	C	A	C	B	A	B	A	C	B	A	C	A	C	B
Placido																																				
Sequences		5			5			1			3			2			1			2			3			6			6			4			4	
Treatment Conditions	B	A	C	B	A	C	A	B	C	C	A	B	B	C	A	A	B	C	B	C	A	C	A	B	A	C	B	A	C	B	C	B	A	C	B	A

A = Spanish A/O
B = English A/O
C = No A/O

conditions within block 1 are shown in Table 4. The column headings ABC refer to the treatment conditions as defined above. The numbers 123 in the body of the table refer to the passages assigned to this particular block. For example, Alejandro received treatment A (Spanish A/O) for hypothetical passage 1 on the first day of block 1. On the second day he received treatment B (English A/O) for hypothetical passage 2.

Table 4. Passage-treatment assignments for one block of the study

Students	Treatments A	B	C
	Passage Number		
Alejandro	1	2	3
Miguel	1	3	2
Felina	2	1	3
Yvette	2	3	1
Raquel	3	1	2
Placido	3	2	1

Each student was randomly assigned to one of these six passage-treatment pairings for each block. The assigned passage number and treatment for the 36 days of the study are presented in Table 5. For example, on day one of the study, Alejandro read passage 4 and received treatment A (Spanish A/O).

Table 5. Passage and treatment condition schedule

Sessions	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Passage/Treatment Condition																	
Students																		
Alejandro	4/A	6/C	21/B	1/B	23/A	27/C	35/C	10/B	3/A	24/C	36/B	18/A	7/C	2/A	34/B	17/B	11/A	5/C
Miguel	6/B	4/A	21/C	27/B	1/C	23/A	35/B	10/C	3/A	18/A	36/C	24/B	2/A	34/C	7/B	17/C	11/A	5/B
Felina	6/C	21/A	4/B	23/B	1/A	27/C	35/C	10/A	3/B	24/C	18/B	36/A	34/A	2/B	7/C	17/A	5/C	11/B
Yvette	21/A	4/C	6/B	27/B	23/C	1/A	3/C	35/B	10/A	18/C	24/B	36/A	2/C	34/A	7/B	17/A	11/C	5/B
Raquel	6/A	21/C	4/B	27/A	23/B	1/C	10/C	35/A	3/B	36/C	18/B	24/A	2/B	34/C	7/A	17/C	5/A	11/B
Placido	21/B	6/A	4/C	1/B	27/A	23/C	35/A	10/B	3/C	18/C	24/A	36/B	34/B	2/C	7/A	5/A	17/B	11/C
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Alejandro	14/C	13/A	16/B	20/B	19/C	26/A	32/A	25/B	33/C	28/B	9/C	29/A	22/A	8/C	12/B	31/A	15/B	30/C
Miguel	16/C	13/A	14/B	20/C	19/B	26/A	32/A	33/B	25/C	28/C	9/B	29/A	8/B	22/A	12/C	31/A	30/B	15/C
Felina	16/A	14/C	13/B	19/C	26/B	20/A	32/B	25/A	33/C	28/A	29/B	9/C	22/B	8/C	12/A	31/B	30/C	15/A
Yvette	14/B	13/C	16/A	26/C	20/A	19/B	33/B	25/A	32/C	28/A	9/B	29/C	12/A	8/B	22/C	30/B	15/A	31/C
Raquel	14/A	13/B	16/C	26/B	20/C	19/A	25/C	32/B	33/A	29/B	9/A	28/C	22/B	8/A	12/C	30/A	15/C	31/B
Placido	16/B	13/C	14/A	26/C	19/A	20/B	33/A	32/C	25/B	9/A	29/C	28/B	22/C	12/B	8/A	31/C	15/B	30/A

Scoring of the Data

The scoring of the comprehension questions was completed by two special education master's level students who were trained as independent scorers. The investigator provided them with a key as to possible correct and incorrect answers to the comprehension questions. These correct and incorrect answers were written by the investigator based on her prior experience writing and scoring comprehension tests. The scorers were "blind" as to which treatment condition had been used before the student answered the comprehension questions. Scorers listened to the tapes which were recorded during the study. They transcribed the tapes onto answer sheets. Answers were marked correct with a score of 1, partially correct with a score of 1/2, or incorrect with a score of 0. When disagreements occurred between the independent scorers on individual comprehension questions, the investigator served as a third scorer by independently scoring the question. In all of these cases the investigator agreed with one of the scorers and the score for which two scorers agreed was assigned. The number of correct answers was added to obtain a total score for each passage.

The reliability of reported results refers to the agreement or consistency found between the two independent scorers in scoring the comprehension questions. Interscorer reliability was determined by:

$$\frac{\text{\# of agreements}}{\text{\# of agreements + \# of disagreements}}$$

There was an overall .93 reliability in agreement between the two scorers for the 1,728 questions. This number of questions was derived by multiplying the number of questions per passage (8) by the

number of passages (36) by the number of students (6). The reliability between the two scorers for each student is reported in Table 6. The highest reliability was for Placido with .95, and the lowest was for Raquel with a score of .91.

Table 6. Reliability of scored questions for each student

Student	Reliability
Alejandro	.94
Miguel	.92
Felina	.94
Yvette	.94
Raquel	.91
Placido	.95

Analysis of the Data

The following questions were considered when analyzing the data:

1. Will the use of an advance organizer in English or Spanish result in differences in the English reading comprehension for bilingual learning disabled students as measured by oral comprehension questions based on a taxonomy of reading comprehension?

a. When comparing the use of an advance organizer in English with no advance organizer, will the use of the advance organizer in English result in greater English reading comprehension for bilingual learning disabled students?

b. When comparing the use of an advance organizer in Spanish with no advance organizer, will the use of the advance organizer in Spanish result in greater English reading comprehension for bilingual learning disabled students?

c. When comparing the use of an advance organizer in Spanish with an advance organizer in English, will the use of the advance organizer in Spanish result in greater English reading comprehension for bilingual learning disabled students?

2. Will the use of an advance organizer in either Spanish or English differentially affect these students' performance on the various levels of comprehension questions asked of them from a reading taxonomy?

To answer the first question, the number of correct responses to the eight comprehension questions was recorded on individual student graphs by session and by treatment condition. Visual analysis of the data provided one source of information regarding the experimental outcomes. A second source was obtained by comparing the mean scores of the six subjects by treatments using the Sign Test (Siegel, 1956).

To answer the second question, the average proportion of correct responses across passages for the five levels of comprehension questions was computed by treatment condition and by student.

CHAPTER 4

RESULTS

The purpose of this study was to investigate the effects of advance organizers on the English reading comprehension of six bilingual learning disabled students. The design consisted of an alternating treatment design in which three treatments were used throughout the study:

Treatment A--the advance organizer (A/O) was presented in Spanish.

Treatment B--the advance organizer (A/O) was presented in English.

Treatment C--no advance organizer (A/O) was presented.

All students received each treatment throughout the study.

This chapter presents the results for the six students when presented with the three treatment conditions. These results are described in terms of the number of comprehension questions answered correctly for each passage by treatment and the average proportion of correct responses across the passages in each condition for the different levels of questions.

Question 1: Differences in English Reading Comprehension

Data related to question 1 demonstrate the effect of the three treatment conditions on the English reading comprehension of the six bilingual learning disabled students.

Question 1: Will the use of an advance organizer in English or Spanish result in differences in the English reading comprehension for bilingual learning disabled students as measured by oral comprehension questions based on a taxonomy of reading comprehension?

For each student the number of comprehension questions answered correctly for each passage are presented as data points on a line graph (see Figures 1-6). Each graph contains the following elements: (1) an x axis representing the numbered sessions and the number of the text passage utilized in that session; (2) a y axis representing the number of correct responses possible (8) for each reading passage; and (3) data points representing performance on the passages coded for each treatment condition.

Overall visual analysis of the graphs for Alejandro, Miguel, Raquel, and Placido indicate a trend to score higher when the advance organizer was presented in English than when the advance organizer was presented in Spanish or when no advance organizer was presented. Yvette's graph indicates a trend to score higher when the advance organizer was presented in Spanish. Felina's scores do not indicate a trend.

To provide substantiation for the trends evident in the visual analysis, statistical analyses were conducted to determine the effect

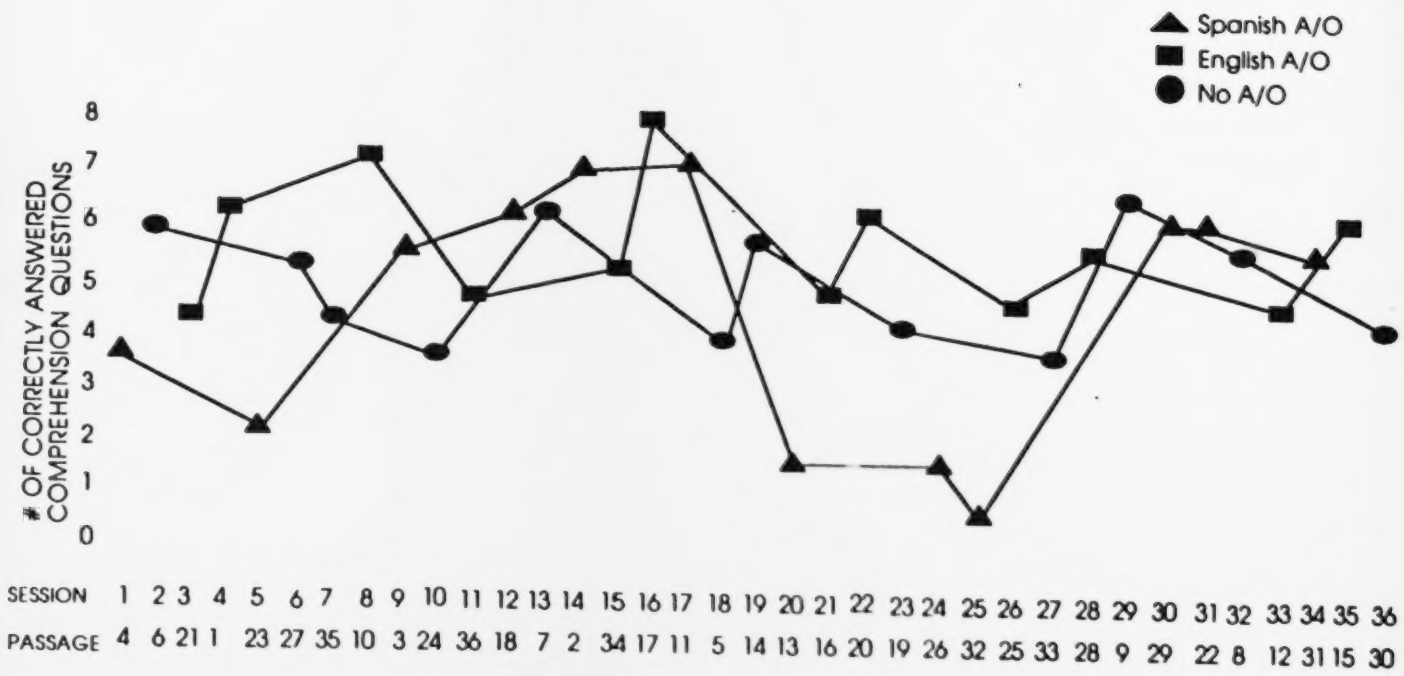

Figure 1. Number of correctly answered comprehension questions by treatment for Alejandro

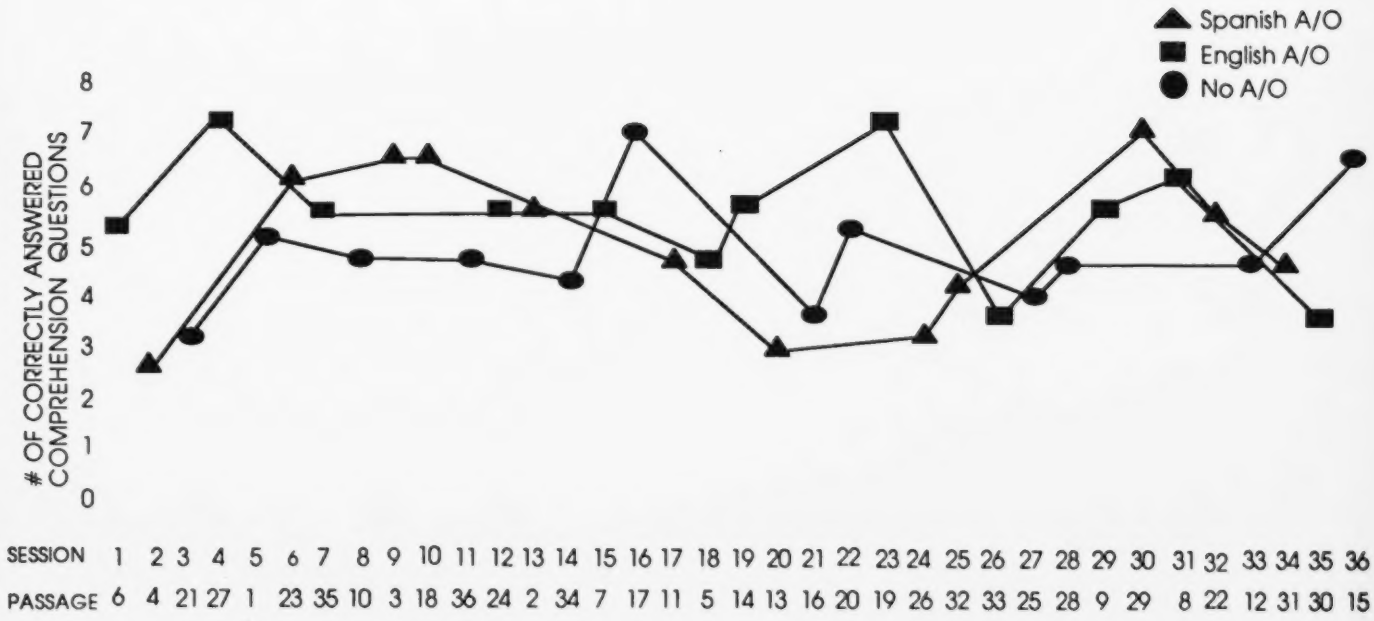

Figure 2. Number of correctly answered comprehension questions by treatment for Miguel

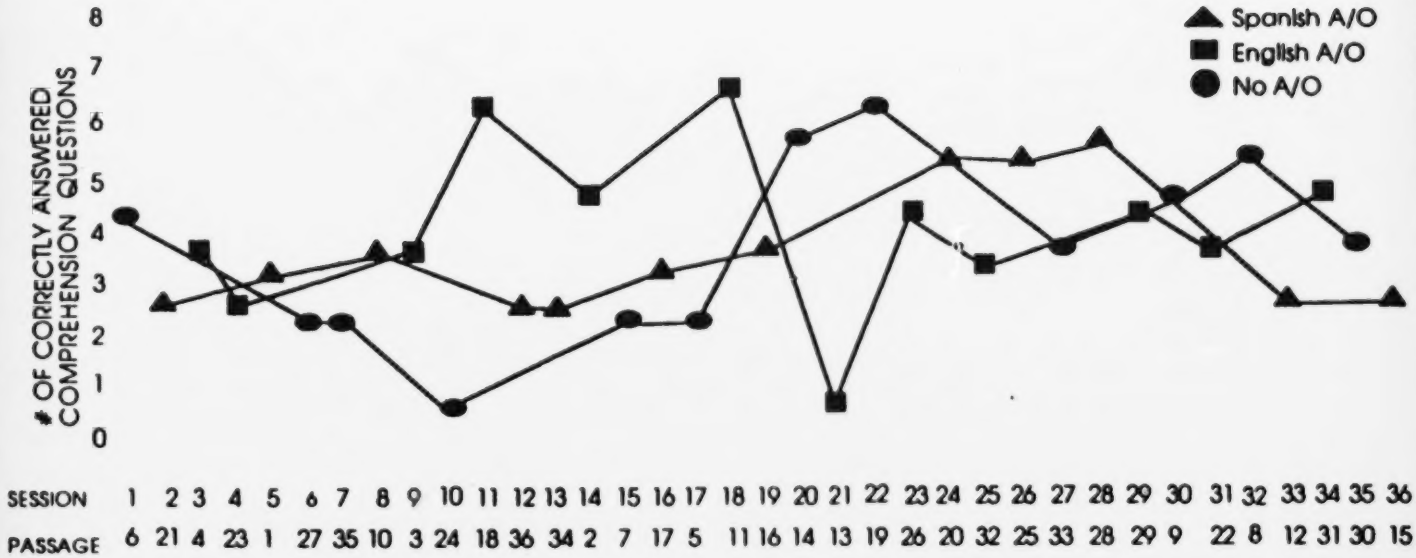

Figure 3. Number of correctly answered comprehension questions by treatment for Felina

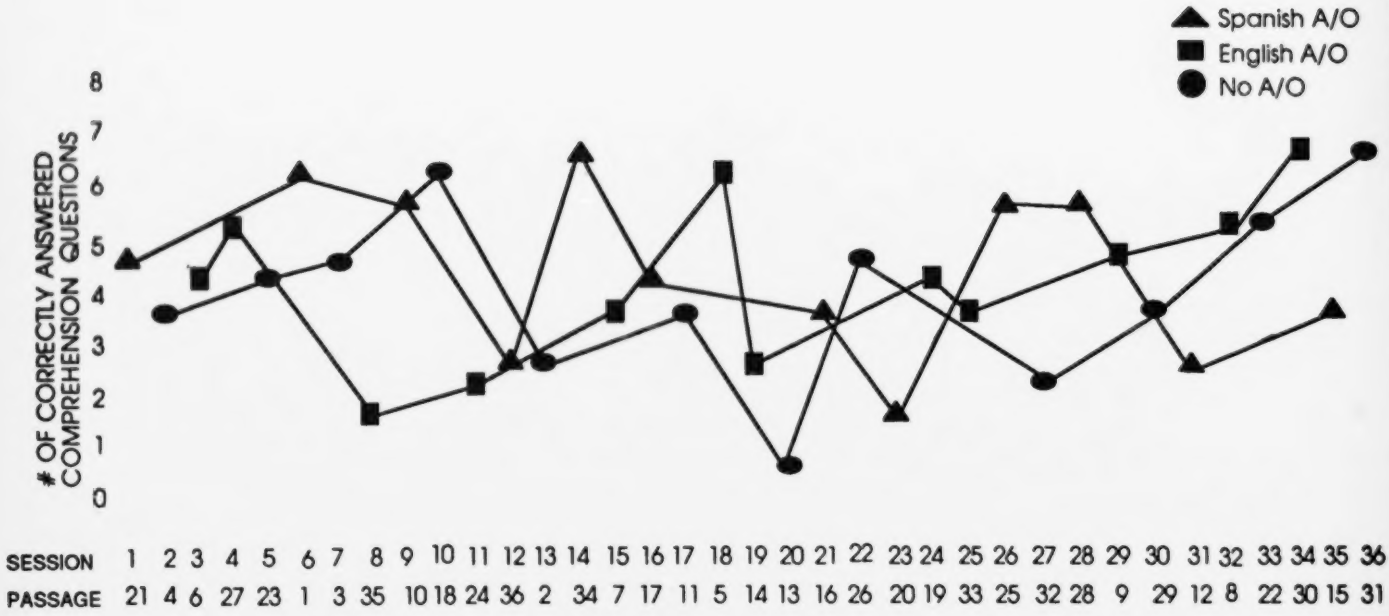

Figure 4. Number of correctly answered comprehension questions by treatment for Yvette

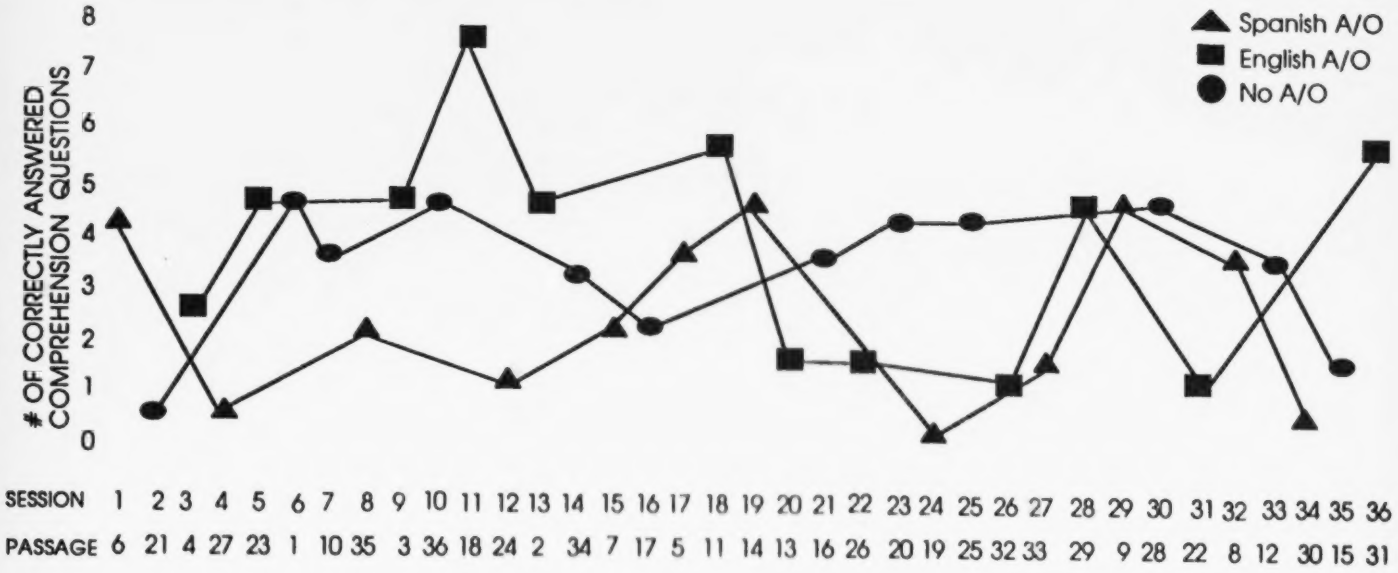

Figure 5. Number of correctly answered comprehension questions by treatment for Raquel

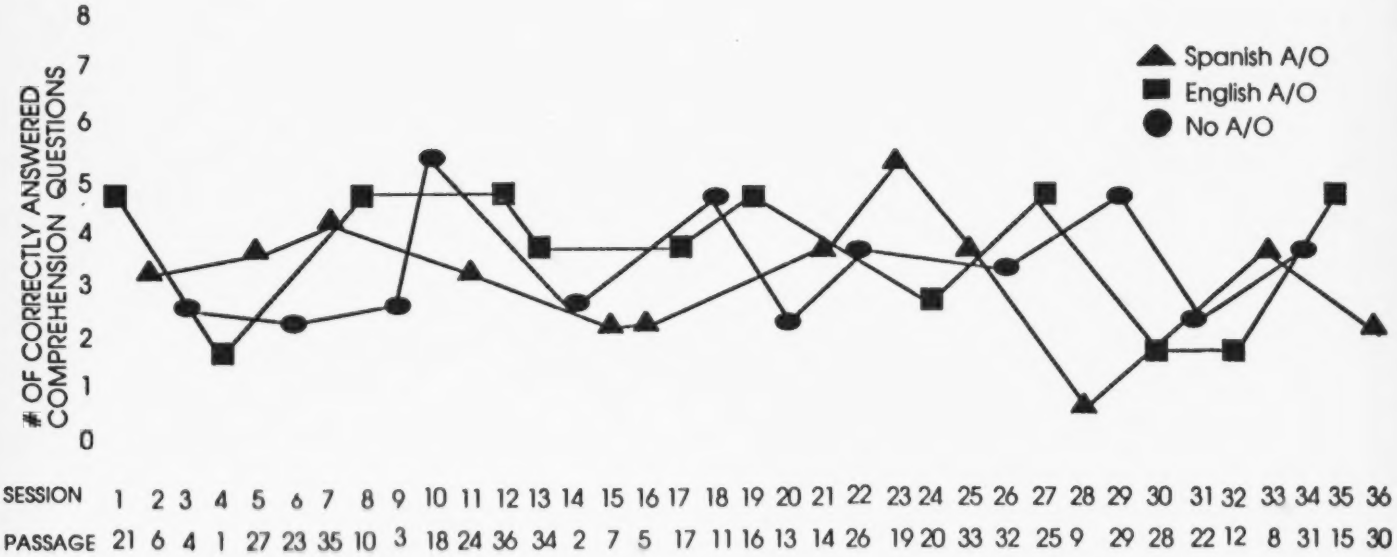

Figure 6. Number of correctly answered comprehension questions by treatment for Placido

of the three treatment conditions on the students' English reading comprehension. The mean scores across passages for the correctly answered comprehension questions for each student by treatment condition were computed and are presented in Table 7.

Table 7. Mean comprehension scores for the six students by treatment condition

Subject	Treatment Conditions		
	Spanish A/O	English A/O	No A/O
Alejandro	4.79	5.88	5.25
Miguel	5.33	5.83	5.13
Felina	3.92	4.29	3.88
Yvette	4.75	4.50	4.33
Raquel	2.79	4.17	3.75
Placido	3.42	3.92	3.63

Sign tests (Siegel, 1956) were used to determine if there were statistically significant differences for three comparisons: (a) English advance organizer versus no advance organizer (question 1.a.); (b) Spanish advance organizer versus no advance organizer (question 1.b.); (c) English advance organizer versus Spanish advance organizer (question 1.c.). Significance was set at the .05 alpha level. Since each data set was used in two statistical analyses, Bonferroni correction for alpha slippage (Harris, 1985) was applied. Using this correction

an alpha level of .025 was interpreted as significant at the .05 level.

Question 1.a. When comparing the use of an advance organizer in English with no advance organizer, will the use of the advance organizer in English result in greater English reading comprehension for bilingual learning disabled students?

To answer the question of whether a statistically significant difference occurs between the use of English advance organizers (A/O) and no advance organizers, the Sign Test was used. These means are shown in Table 8 along with the direction of the differences.

Table 8. Mean scores for correctly answered comprehension questions of English advance organizers when compared with no advance organizer

Student	Mean Scores English A/O	Mean Scores No A/O	Direction of Difference	Sign
Alejandro	5.88	5.25	Eng > No A/O	+
Miguel	5.83	5.13	Eng > No A/O	+
Felina	4.29	3.88	Eng > No A/O	+
Yvette	4.50	4.33	Eng > No A/O	+
Raquel	4.17	3.75	Eng > No A/O	+
Placido	3.92	3.63	Eng > No A/O	+

The predicted direction was a higher mean score when the advance organizers were presented in English. For all six students the direction is as predicted. Evaluation of these data by the Sign Test indicates these differences to be significant ($p = .016$) with the use of English advance organizers resulting in greater English reading comprehension.

Question 1.b. When comparing the use of an advance organizer in Spanish with no advance organizer, will the use of the advance organizer in Spanish result in greater reading comprehension for bilingual learning disabled students?

To answer this question the means for the Spanish advance organizer and no advance organizer for each student are shown in Table 9 along with the direction of the differences.

Table 9. Mean scores of correctly answered comprehension questions of Spanish advance organizers when compared with no advance organizer

Student	Mean Scores		Direction of Difference	Sign
	Spanish A/O	No A/O		
Alejandro	4.79	5.25	Span < No A/O	-
Miguel	5.33	5.13	Span > No A/O	+
Felina	3.92	3.88	Span > No A/O	+
Yvette	4.75	4.33	Span > No A/O	+
Raquel	2.79	3.75	Span < No A/O	-
Placido	3.42	3.92	Span < No A/O	-

The predicted direction was a higher mean score when the advance organizers were presented in Spanish. It can be seen that three of the six differences are as predicted, and three are in the opposite direction. Evaluation of these data by the Sign Test indicates the use of the Spanish advance organizers did not result in a significant difference for English reading comprehension when compared with no presentation of advance organizers.

Question 1.c. When comparing the use of an advance organizer in Spanish with an advance organizer in English, will the use of the advance organizer in Spanish result in greater English reading comprehension for bilingual learning disabled students?

To answer this question the means for the Spanish advance organizer and the English advance organizer are shown in Table 10 along with the direction of the differences.

Table 10. Mean scores of correctly answered comprehension questions of Spanish and English advance organizers

Student	Spanish A/O	English A/O	Direction of Difference	Sign
Alejandro	4.79	5.88	Span < Eng	-
Miguel	5.33	5.83	Span < Eng	-
Felina	3.92	4.29	Span < Eng	-
Yvette	4.75	4.50	Span > Eng	+
Raquel	2.79	4.17	Span < Eng	-
Placido	3.42	3.92	Span < Eng	-

The predicted direction was a higher mean score when the advance organizer was presented in Spanish. It can be seen that only one of the six differences is as predicted, while five of the six are in the opposite direction. Only Yvette scored higher when the advance organizers were in Spanish. It is interesting to note that she was the only student in the group whose oral language was more proficient in Spanish than English, as can be seen on the assessment data presented in Table 1. The other five students either demonstrated greater oral language proficiency in English or appeared to have equal proficiency in both languages. Evaluation of these data by the Sign Test indicates them not to be significant.

As a group the students were most successful when the advance organizers were presented in English. Utilizing the A/O in English resulted in an average score across the six students of 4.77 or 60% correct for the comprehension questions. The no A/O condition resulted in an average of 4.33 or 54% of the comprehension questions being answered correctly. The A/O in Spanish resulted in an average of 4.17 or 52% of the comprehension questions being correctly answered.

Question 2: Student Performance on Types of Comprehension Questions

Data related to question 2 demonstrate the effect of the three treatment conditions on the bilingual learning disabled students' performance on the various types of comprehension questions based on Barrett's Reading Taxonomy (1968).

Question 2: Will the use of an advance organizer in either Spanish or English differentially affect these students' performance on the various types of comprehension questions asked of them from a reading taxonomy?

Analysis of the various types of comprehension questions based on Barrett's Taxonomy is represented in Table 11 by treatment for each student. The proportion scores of individual student's ability to answer the different types of questions for each treatment are noted as is the average proportion by question across students.

In visually examining the success with which each student answered each level of question and the effect of treatment type, no consistent patterns were discernible across students. For the literal comprehension questions, Alejandro, Felina and Raquel did best when the A/O was presented in English. Miquel did best when the A/O was presented in Spanish. Yvette and Placido performed best when no A/O was presented.

In examining the questions at the reorganization level, Alejandro and Placido performed best when the A/O was presented in English. Miquel did best when the A/O was in Spanish. Felina and Raquel performed best when there was no A/O presented. Yvette performed equally well at the reorganization level when the A/O presentations were in English or Spanish.

At the inferential comprehension level, Miquel and Yvette performed best when the A/O was in English. Felina performed slightly better when the A/O was in English. Placido performed best on the

Table 11. Average proportion of correct responses on the comprehension questions by type of question and treatment for each student across passages

	(A) Spanish A/O							(B) English A/O							(C) No A/O						
	S1	S2	S3	S4	S5	S6	Average	S1	S2	S3	S4	S5	S6	Average	S1	S2	S3	S4	S5	S6	Average
Literal Comprehension	.60	.74	.45	.54	.23	.27	.47	.72	.58	.56	.49	.57	.39	.55	.57	.66	.36	.57	.49	.53	.53
Reorganization	.36	.77	.33	.50	.38	.31	.44	.75	.73	.32	.50	.41	.46	.53	.58	.67	.38	.32	.50	.23	.45
Inferential Comprehension	.54	.34	.33	.42	.21	.42	.38	.58	.70	.38	.58	.30	.38	.49	.71	.52	.37	.40	.42	.20	.44
Evaluation	.62	.77	.80	.70	.39	.50	.63	1.00	.71	.64	.69	.62	.60	.71	.71	.80	.77	.68	.60	.54	.68
Appreciation	1.00	1.00	.91	1.00	.63	1.00	.92	.91	.91	.92	.88	.83	1.00	.91	.83	1.00	.92	.83	.55	.83	.83

S1 = Alejandro
S2 = Miguel
S3 = Felina
S4 = Yvette
S5 = Raquel
S6 = Placido

inferential comprehension questions when the A/O was presented in Spanish. Alejandro and Raquel did best when there was no A/P presentation.

On questions at the evaluation level, Alejandro, Raquel and Placido performed best when the A/O was presented in English. Felina and Yvette did best with the Spanish A/O. Miquel did best when there was no A/O presentation.

In examining student performance on questions at the appreciation level, Raquel performed best when the A/O was presented in English. Miquel and Felina did equally well when the A/O was in English and when there was no A/O presented. Placido did equally well when the A/O was in English or Spanish. Alejandro and Yvette did best when the A/O presentation was in Spanish. In sum, the resulted presented above indicate no obvious pattern with regards to type of treatment and level of questions asked.

The average proportion of correct responses for each type of comprehension questions across treatments and students is presented in Table 12.

Results indicate that overall the students performed highest on appreciation level questions and next highest on evaluation questions. Although the proportions of correct responses for the other three levels of questions, literal, reorganization, and inferential, were lower, they show no consistent patterns across the students or treatments. In examining the presentation of the A/O in Spanish, all students performed best on those questions at the appreciation level. When the A/O was presented in English, all students performed best on

Table 12. Average proportion of correct responses for the types of comprehension questions across treatments and students

Question Type	Proportion of Correct Responses
Literal comprehension	.52
Reorganization	.47
Inferential comprehension	.44
Evaluation	.67
Appreciation	.89

appreciation questions except Alejandro who performed best with questions at the evaluation level. When no A/O was presented prior to reading the passage, all students except Raquel performed best with appreciation questions. Raquel performed best on evaluation questions. Typical appreciation level questions were, "Would you like to have a chicken for a pet?" and "Would you like to visit the Magic Castle?". Questions which were typical of evaluation level questions were, "Does the story give good information on how to build a dog house?" and "Is it a good idea to save toys?".

Summary of Results

The results of this study may be summarized as follows:

1. Six out of the six students scored significantly higher on English reading comprehension when English advance organizers were used in comparison to no advance organizers.
2. Five out of the six students scored higher on English reading comprehension when English advance organizers were used as compared to the use of Spanish advance organizers. These five students demonstrated equal or greater proficiency in English according to the oral language assessment data. The one student who scored higher when Spanish advance organizers were used was more proficient in Spanish than in English.
3. Three out of the six students scored higher when Spanish advance organizers were used as compared to no advance organizers.
4. In general, the results suggest that the advance organizer is effective when used in the dominant language of the student.
5. Students performed highest on questions at the appreciation and evaluation levels of the reading taxonomy across all three treatments.

CHAPTER 5

SUMMARY, DISCUSSION, AND IMPLICATIONS

This chapter presents a summary of the problem and procedures, a summary of the results, a discussion of the results, and implications and recommendations for additional research.

Overview of the Problem and Procedures

Increasing numbers of learning disabled students whose primary language is other than English are being served in special education classrooms. Unfortunately, the knowledge base regarding instructional strategies for teaching bilingual learning disabled students is quite limited. However, a number of studies have demonstrated the positive effects of using bilingual students' primary language to increase reading comprehension. This study addressed the notion of using the students' primary language for instruction in relation to bilingual learning disabled students.

The instructional strategy selected for this study was based on a recent focus of reading comprehension research for both English speaking and bilingual students, the activation of prior knowledge and background experience based on the premises set forth in schema theory. One major focus of this theory is that bridging a student's previously learned knowledge and experiences with what is to be read will increase a student's comprehension of the passage. Prior knowledge has been

shown to play a significant role in the reading comprehension of English speaking students (Adams and Collins, 1979; Anderson, Spiro, and Anderson, 1978; Pearson, Hansen, and Gordon, 1979). Research has also investigated the positive role of prior knowledge in second language reading comprehension (Carrell, 1983; Hudson, 1982; Johnson, 1982).

A strategy used for increasing reading comprehension which is based on premises similar to those of schema theory is the advance organizer proposed by Ausubel (1963). The advance organizer is presented prior to and at a higher and more general level than the learning task itself. Numerous studies have demonstrated the effectiveness of the advance organizer with elementary school age children (Alexander et al., 1979; Lawton, 1977; Lawton and Wanska, 1979). Although the use of advance organizers has been investigated with secondary level learning disabled students (Lenz, 1982), the investigator found no studies to date that have examined the use of advance organizers with elementary learning disabled students or bilingual learning disabled students.

The current study examined the use of advance organizers on the English reading comprehension of six elementary bilingual learning disabled students. An alternating treatment design was utilized in which the treatments consisted of advance organizers presented prior to students reading English passages. The three treatments were: (a) presentation of the advance organizer in Spanish, (b) presentation of the advance organizer in English, and (c) no advance organizer presentation. The effectiveness of the treatments was measured by asking students to orally respond to eight comprehension questions at the five levels of Barrett's Reading Taxonomy (1968) upon completion of reading each

passage. The number of correct responses for each passage was recorded on individual graphs and mean scores were presented in table form. Visual analysis of the graphs and Sign Tests were used to determine if differences were evident between the presentation of advance organizers in English and no advance organizers, the presentation of advance organizers in Spanish and no advance organizers, and a comparison of the presentation of English and Spanish advance organizers. Student responses to different levels of comprehension questions were also examined for each treatment and across treatments.

Summary of Results

The results of this study may be summarized as follows:

1. Six out of the six students scored significantly higher on English reading comprehension when English advance organizers were used in comparison to no advance organizers.
2. Five out of the six students scored higher on English reading comprehension when English advance organizers were used as compared to the use of Spanish advance organizers. These five students demonstrated equal or greater proficiency in English according to the oral language assessment data. The one student who scored higher when Spanish advance organizers were used was more proficient in Spanish than in English.
3. Three out of the six students scored higher when Spanish advance organizers were used as compared to no advance organizers.
4. In general, the results suggest that the advance organizer is effective when used in the dominant language of the student.

5. Students performed highest on questions at the appreciation and evaluation levels of the reading taxonomy across all three treatments.

Discussion

Results from this study demonstrate that when the advance organizer was presented in English as compared to when no advance organizer was presented, all students scored higher. The effectiveness of the advance organizer is consistent with previous research investigating the efficacy of advance organizers. Previous research in bilingual instruction would lead one to predict that the presentation of the advance organizer in the student's primary language (i.e., Spanish) would be more successful than when the advance organizer was not used or when the advance organizer was presented in the student's second language. However, results of this study do not substantiate this assumption. When the advance organizer was presented in Spanish, half of the students benefited from the advance organizer as compared to no advance organizer. When comparing the presentation of the advance organizer in English and Spanish, only one student scored higher when the advance organizer was presented in Spanish. Explanations for why the Spanish advance organizer did not produce higher comprehension may be related to student characteristics and the assessments used to determine language proficiency and dominance.

The six students selected for this study had certain characteristics in common. All were classified as learning disabled, were in the fifth or sixth grade, were attending a public elementary school,

had average intelligence, had instructional reading levels within the second grade range, and were considered to be bilingual or limited English speakers at the time they were placed in special education. None of the previous research in the use of advance organizers has included bilingual learning disabled students. The fact the students in the present study were bilingual learning disabled may account for the results found in this study when the advance organizer was presented in Spanish.

One reason the advance organizer in Spanish may not have made substantial differences in the students' reading comprehension may have been their language proficiency in Spanish. Five of the six students performed better when A/Os were presented in English as compared to Spanish. One student, Yvette, performed better when the A/Os were presented in Spanish. Examining the assessment data in Table 1, on the Verbal Ability and Oral Language Clusters of the Woodcock-Johnson Psycho-Educational Battery (Woodcock and Johnson, 1977), all of the students fell well below average and well below grade level in both English and Spanish. However, when comparing oral language for language dominance, these scores seemed to be predictive of their performance using advance organizers in English and Spanish. As can be seen Yvette was more proficient in Spanish which may explain her ability to comprehend at a higher level when the advance organizer was presented in Spanish. Four of the five students who scored higher when the advance organizer was presented in English had higher language scores in English than Spanish. In the case of the fifth student, he had second grade level scores in both languages. This may indicate a

relationship between the students' verbal ability in a particular language and their ability to profit from an orally presented advance organizer in that language. Additional support for this trend can be shown on the Bilingual Syntax Measure (Burt and Dulay, 1978); none of the students were proficient (Level 6) in either English or Spanish. In examining the language proficiency of the students, two of the three students who scored equally high in English and Spanish, Alejandro and Miquel, performed better on the English A/O. The third student, Yvette, performed greater when the Spanish advance organizer was used. The other three students scored lower in Spanish proficiency than English proficiency which may account for their greater scores when the English advance organizer was used.

In examining the above explanation, one must consider the types of language proficiency being measured by the Woodcock-Johnson Psycho-Educational Battery and Bilingual Syntax Measure. Both assessments purport to assess oral language ability and proficiency. As was presented in Chapter 2, Cummins (1981b) discusses the importance of testing both the student's cognitive/academic/language proficiency (CALP) and basic interpersonal communicative skills (BICS). The Bilingual Syntax Measure tests primarily students' BICS. However, the tasks required in this study required primarily students' CALP skills. In comparison, the Woodcock-Johnson taps the students' CALP skills. This test, which demonstrated overall low language proficiency in both languages and for most students' dominance in English, was more predictive of students' performance on the advance organizer tasks.

Half of the six students scored higher when no advance organizer was used as compared to the Spanish advance organizer. One reason the bilingual learning disabled students may not have benefited more from the advance organizer in Spanish may be related to their learning disabilities. Lenz (1982) reported that LD adolescents needed to be made aware of the purposes and benefits of advance organizers and needed to be cued as to when an advance organizer was being presented. No attempt was made in the present study to cue the students as to the purposes, benefits or use of the advance organizers. It is possible the elementary LD students in this study did not understand if and how long they were to use the information they received in the advance organizers, particularly the Spanish advance organizer, when the reading passages and comprehension questions were in English.

Another point of discussion regarding the results of this study is the moderate number of correct responses on the comprehension questions even when the advance organizer was presented in the students' dominant language. On the average the students did not answer more than 60% of the comprehension questions regardless of treatment condition. A possible explanation for this finding may be the type of advance organizers utilized in this study. In many of the previous studies, the subjects read the advance organizer to themselves (Kahle and Rastovac, 1976; Koran and Koran, 1973; Steffensen et al., 1979). In this study the advance organizer was read to the student so that reading difficulties could not interfere with the presentation of the A/O. However, as has been previously discussed, the language

difficulties of the students may have interfered with their abilities to process the orally presented advance organizers.

Another reason the advance organizers may not have resulted in greater comprehension may be they were not interactive enough. Both Lenz (1982) and Alexander et al. (1979) used interactive organizers which included student discussions and found they facilitated learning. This study did not require students to interact other than to answer one or two questions within the organizer.

In most of the previous studies, written multiple choice tests or retellings were used to determine the effectiveness of the treatments (Alexander et al., 1979; Bransford and Johnson, 1972; Holtzman et al., 1982; Taylor, 1979). In the present study comprehension questions were read to the students and open-ended oral responses were required. Due to the students' low verbal abilities as measured by various standardized instruments, these students may have had difficulty answering the comprehension questions.

Another explanation may relate to the students' ability to decode the words in the passage. Although the Woodcock-Johnson Psycho-Educational Battery indicated the students were reading in English within the second grade reading level and the passages were written on a second grade level, it may have been that the students were unable to adequately decode the passages. Since the students read the passages to themselves and no check for decoding was conducted, the ability of the students to decode the passages was not established.

Implications and Recommendations for Future Research

The major implication from the present study relates to use of the dominant language for presentation of advance organizers to bilingual learning disabled students. When the dominant language on the CALP language proficiency measure was equal or greater in English, the students scored better when the advance organizer was presented in English. When the dominant language on the CALP language proficiency measure was greater in Spanish, the student scored better when the advance organizer was presented in Spanish.

This study indicates tentative support for the importance of considering language proficiency in CALP skills when determining the language of the advance organizers and other instructional activities. This does support Cummins' (1981a) argument that language proficiency assessment include measures of CALP as well as BICS.

Future research should focus on the interaction between language dominance, language proficiency, and the language of instruction for bilingual learning disabled students. The present study selected bilingual students in learning disability classes, tested their language proficiency and ability and then conducted the study. Replication of this study should select students based on their language proficiency and dominance and group them as more proficient in English CALP, Spanish CALP, or having similar CALP levels. Instructional interventions, such as advance organizers, could be used to determine how language dominance interacts with language of instruction.

As demonstrated by this study, there are advantages to using advance organizers in the language in which the student is the most proficient. Given the fact that an advance organizer is relatively easy to implement in educational settings and that it is similar in nature to the preview approach in bilingual education, it would seem worth the time and the effort to replicate this study and suggest its use as an instructional technique for increasing reading comprehension of bilingual learning disabled students.

APPENDIX A

PARENT PERMISSION FORM

I, _____, give permission for my child to participate in a research project sponsored by the University of Arizona, Department of Special Education. The purpose of this project is to determine how to increase the reading comprehension skills of bilingual learning disabled students. I agree to allow my child to be tested in reading and oral language proficiency in both Spanish and English. I understand my child will receive instruction daily for 30-45 minutes for approximately 45 days. This instruction will be conducted by a graduate student in special education from the university. Additionally, I understand that part of the lessons will be presented in Spanish.

I am aware that the researchers will keep all information confidential about my child.

Student's Name_____

Parent's Signature_____

Date_____

If I have any questions about this study, I may contact:

Beth Lasky
Doctoral Candidate
Department of Special Education
University of Arizona
Tucson, Arizona 85721
621-3214

Hoja de Permiso de los Padres

Yo, _____, doy permiso a mi hijo(a) para participar en un tema investigativo auspiciado por la Universidad de Arizona, Departamento de Educación Especial. El propósito de este tema es el de determinar como se pueden cumentar las habilidaded de la comprensión de lectura de Estudiantes Lisiados de Instrucción Bilingüe. Estoy de acuerdo en dejar que a mi hijo(a) se le hagan pruebas en el adelantamiento de la lectura y del lenguage oral que se darán tanto en español como en inglés. Estoy bajo el entendimien de que mi hijo(a) recibirá instrucción diariamente de 30 a 45 minutos por aproximádamente 45 días. Dicha instrucción se llevará a cabo por en Estudiante Graduado en Educción de la Universidad. Además, entiendo que parte de las lecciones se presentarán en español.

Estoy enterado de que los investigadores mantendrán toda la información sobre me hijo(a) confidencial.

Nombre del(la) estudiante_____

Firma del padre_____

Fecha_____

Se tengo alguna pregunta de este estudio me puedo poner en contacto con:

Beth Lasky
Candidato al Doctorado
Departamento de Educacion Especial
Universidad de Arizona
Tucson, Arizona 85721
621-3214

APPENDIX B

SAMPLE READING PASSAGE

6. Pet-Sitting

So you have a problem. You don't have a pet of your own. But you would like to take care of one. Here is the answer. Pet-sit for a friend's pet.

When people go away, they can't always take their pets with them. They are usually very happy to hear that someone wants to take care of their pets.

Before you take on the job, do some reading. Make sure it won't be too much work. Ask your family some questions. Is it all right to have the pet in your house? Does your family also have plans to go away?

When you get the pet, ask the person who owns it some questions. Write down important answers. Find out what food the pet likes. Ask what foods it can't eat. When is the pet supposed to have milk or water?

Find out where to put the animal's home. Some animals don't like the sun. Most pets can't stand the cold. How often should the pet's home be cleaned?

Find out if you will have to wash the pet. Will you have to brush it? Find out how these things are done. You will want to know if the pet has been sick lately. Get the telephone number of the pet's doctor.

You should be given the things that the pet will need--like special food. But find out where you can get more in case you need it. Get the pet's toys. They will make the pet feel more at home. Remember that the pet will miss its home. So be gentle and kind. That will help the animal. And it will make your job more fun.

APPENDIX C

ADVANCE ORGANIZER

6. Pet-Sitting

English

Sometimes parents want to go out to dinner without their children. If the children are too young to stay alone, who can the parents call? [That is correct.] People who take care of the children are sometimes called baby-sitters. Baby-sitters have lots of responsibilities. They have to feed the children, wash them and sometimes play with them. It is important to be GENTLE to the children. This means to treat them very carefully. In this story you will read about a different kind of baby-sitter.

Spanish

Algunas veces los padres quieron salir a comer sin sus hijos. Si los hijos son muy pequenos como para quedar solos, ¿ a quien pueden llamar los padres? [Esta correcto.] Los personas que cuidan a los niños a veces se les llama niñeras. Las niñeras tienen muchas responsabilidaded. Ellas tienen que dar de comer a los niños, lavarles y jugar con ellos. Es importante ser APACIBLE a los niños. Esta quiere decir trator les cuidadosamente. En Esta historia va leer sobre un tipo de niñera diferente.

APPENDIX D

THE BARRETT TAXONOMY
COGNITIVE AND AFFECTIVE DIMENSIONS
OF READING COMPREHENSION*

1.0 Literal Comprehension. Literal comprehension focuses on ideals and information which are explicitly stated in the selection. Purposes for reading and teacher's questions designed to elicit responses at this level may range from simple to complex. A simple task in literal comprehension may be the recognition or recall of a series of facts or the sequencing of incidents in a reading selection. Purposes and questions at this level may have the following characteristics.

1.1 Recognition requires the student to locate or identify ideas or information explicitly stated in the reading selection itself or in exercises which use explicit ideas and information presented in the reading selection. Recognition tasks are:

1.11 Recognition of Details. The student is required to locate or identify facts such as the names of characters, the time of the story, or the place of the story.

1.12 Recognition of Main Ideas. The student is asked to locate or identify an explicit statement in or from a selection which is a main idea of a paragraph or a larger portion of the selection.

1.13 Recognition of a Sequence. The student is required to locate or identify the order of incidents or actions explicitly stated in the selection.

1.14 Recognition of Comparison. The student is requested to locate or identify likenesses and differences in characters, times, and places that are explicitly stated in the selection.

*Robinson, H. (Ed.). Innovation and Change in Reading Instruction. University of Chicago Press, 1968. pp. 19-23.

1.15 Recognition of Cause and Effect Relationships. The student in this instance may be required to locate or identify the explicitly stated reasons for certain happenings or actions in the selection.

1.16 Recognition of Character Traits. The student is required to identify or locate explicit statements about the character which helps to point up the type of person he is.

1.2 Recall requires the student to produce from memory ideas and information explicitly stated in the reading selection. Recall tasks are:

1.21 Recall of Details. The student is asked to produce from memory facts such as the names of characters, the time of the story, or the place of the story.

1.22 Recall of Main Ideas. The student is required to state a main idea of a paragraph or a larger portion of the selection from memory, when the main idea is explicitly stated in the selection.

1.23 Recall of a Sequence. The student is asked to provide from memory the order of incidents or actions explicitly stated in the selection.

1.24 Recall of Comparison. The student is required to call up from memory the likenesses and differences in characters, times and places that are explicitly stated in the selection.

1.25 Recall of Cause and Effect Relationships. The student is to produce from memory explicitly stated reasons for certain happenings or actions in the selection.

1.26 Recall of Character Traits. The student is asked to call up from memory explicit statements about characters which illustrate the type of persons they are.

2.0 Reorganization. Reorganization requires the student to analyze, synthesize and/or organize ideas or information explicitly stated in the selection. To produce the desired thought product, the reader may utilize the statements of the author verbatim or he may paraphrase or translate the author's statements. Reorganization tasks are?

2.1 Classifying. In this instance the student is required to place people, things, places, and/or events into categories.

2.2 Outlining. The student is requested to organize the selection into outline form using direct statements or paraphrased statements from the selection.

2.3 Summarizing. The student is asked to condense the selection using direct or paraphrased statements from the selection.

2.4 Synthesizing. In this instance, the student is requested to consolidate explicit ideas or information from more than one source.

3.0 Inferential Comprehension. Inferential comprehension is demonstrated by the student when he uses the ideas and information explicitly stated in the selection, his intuition, and his personal experiences as a basis for conjectures and hypotheses. Inferences drawn by the student may be either convergent or divergent in nature and the student may or may not be asked to verbalize the rationale underlying his inferences.

3.1 Inferring Supporting Details. In this instance the student is asked to conjecture about additional facts the author might have included in the selection which would have made it more informative, interesting, or appealing.

3.2 Inferring Main Ideas. The student is required to provide the main idea, general significance, theme, or moral which is not explicitly stated in the selection.

3.3 Inferring Sequence. The student, in this case, may be requested to conjecture as to what action or incident might have taken place between two explicitly stated actions or incidents, or he may be asked to hypothesize about what would happen next if the selection had not ended as it did but had been extended.

3.4 Infering Comparisons. The student is required to infer likenesses and differences in characters, times, or places. Such inferential comparisons revolve around ideas such as: "here and there," "then and now," "he and she," "he and He" and "she and She."

3.5 Inferring Cause and Effect Relationships. The student is required to hypothesize about the motivations of characters and their interactions with time and place. He may also be required to conjecture as to what caused the author to include certain ideas, words, characterizations, and actions in his writing.

3.6 Inferring Character Traits. In this case the student is asked to hypothesize about the nature of characters on the basis of explicit clues presented in the selection.

3.7 Predicting Outcomes. The student is requested to read an initial portion of the selections and on the basis of this reading he is required to conjecture about the outcome of the selection.

3.8 Interpreting Figurative Language. The student, in this instance, is asked to infer literal meanings from the author's figurative use of language.

4.0 Evaluation. Purposes for reading and teacher's questions in require responses by the student which indicate that he has made an evaluative judgment by comparing ideas presented in the selection with external criteria provided by the reader's experiences, knowledge, or values. In essence, evaluation deals with judgment and focuses on qualities of accuracy, acceptability, desirability, worth, or probability of occurrences. Evaluative thinking may be demonstrated by asking the student to make the following judgments.

4.1 Judgments of Reality or Fantasy. Could this really happen? Such a question calls for judgment by the reader based on his experience.

4.2 Judgments of Fact or Opinion. Does the author provide adequate support for his conclusions? Is the author attempting to sway your thinking? Questions of this type require the student to analyze and evaluate the writing on the basis of the knowledge he has on the subject as well as to analyze and evaluate the intent of the author.

4.3 Judgments of Adequacy and Validity. Is the information presented in keeping with what you have read on the subject in other sources? Questions of this nature call for the reader to compare written sources of information, with an eye toward agreement and disagreement or completeness and incompleteness.

4.4 Judgments of Appropriateness. What part of the story best describes the main character? Such a question requires the reader to make a judgment about the relative adequacy of different parts of the selection to answer the question.

4.5 Judgments of Worth. Desirability and acceptability. Was the character right or wrong in what he did? Was his behavior good or bad? Questions of this nature call for judgments based on the reader's moral code or his value system.

5.0 Appreciation. Appreciation involves all the previously cited cognitive dimensions of reading, for it deals with the psychological and aesthetic impact of the selection on the reader. Appreciation calls for the student to be emotionally and aesthetically sensitive to the work and to have a reaction to the worth of its psychological and artistic elements. Appreciation includes both the knowledge of and the emotional response to literary techniques, forms, styles, and structures.

5.1 Emotional Response to the Content. The student is required to verbalize his feeling about the selection in terms of interest, excitement, boredom, fear, hate, amusement, etc. It is concerned with the emotional impact of the total work on the reader.

5.2 Identification with Characters or Incidents. Teacher's questions of this nature will elicit responses from the reader which demonstrate his sensitivity to, sympathy for, and empathy with characters and happenings portrayed by the author.

5.3 Reactions to the Author's Use of Language. In this instance the student is required to respond to the author's craftmanship in terms of the semantic dimensions of the selections, namely, connotations and denotations of words.

5.4 Imagery. In this instance, the reader is required to verbalize his feelings with regard to the author's artistic ability to paint word pictures which cause the reader to visualize, smell, taste, or feel.

APPENDIX E

COMPREHENSION QUESTIONS

6. Pet-Sitting

1. Most animals don't like what?
2. What questions should you ask about food?
3. How can you make the animal feel at home?
4. Why do people want a pet-sitter?
5. Why is it important to have the phone number of the pet's doctor?
6. Why should you ask your family questions first?
7. Do you think the author forgot anything? What?
8. Would you like to be a pet-sitter? Why?

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